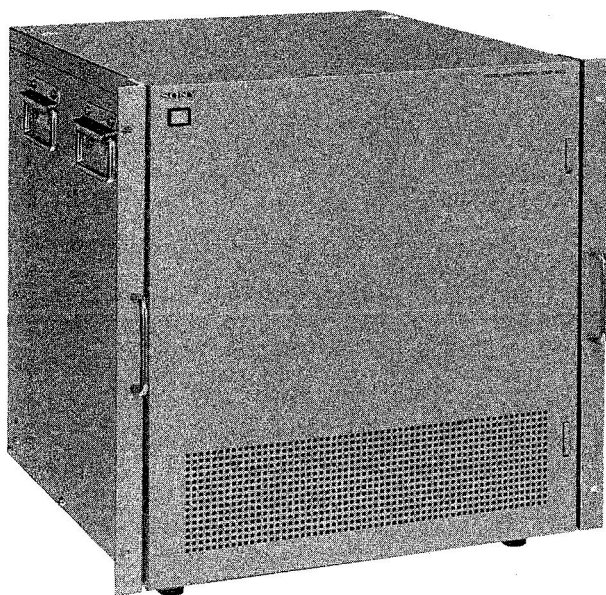


**SONY®**

DIGITAL MULTI EFFECTS

**DME-5000**



OPERATION AND MAINTENANCE MANUAL

1st Edition

Serial No. 10001 and Higher

## **For the customers in the U.S.A.**

### **Warning**

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

## **For the customers in Canada**

This apparatus complies with the Class A limits for radio noise emissions set out in radio interference regulations.

### **Pour les utilisateurs au Canada**

Cet appareil est conforme aux normes Class A, pour bruits radioélectriques. Tel que spécifier dans le règlement sur le brouillage radioélectrique.

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# 目次

## Table of Contents

### 1. 取り扱い操作

|   |          |
|---|----------|
| 1-1. 概要 .....   | 1- 1 (J) |
| 1-1-1. 主な特長 .....                                     | 1- 1 (J) |
| 1-1-2. 使用上のご注意 .....                                  | 1- 3 (J) |
| 1-2. 各部の名称と働き .....                                   | 1- 4 (J) |
| 1-2-1. 前面パネルと内部 .....                                 | 1- 4 (J) |
| 1-2-2. 後面パネル .....                                    | 1-12 (J) |
| 1-3. システム構成例 .....                                    | 1-16 (J) |
| 1-3-1. 専用コントロールパネルおよび<br>入出力機器との接続 .....              | 1-16 (J) |
| 1-3-2. デジタルビデオスイッチャー<br>DVS-8000/8000Cとの接続 .....      | 1-17 (J) |
| 1-3-3. デジタルマルチエフェクトDME-9000<br>との接続 (D1モードの場合) ...    | 1-18 (J) |
| 1-3-4. エディティングコントロール<br>システムBVE-9000との接続 ...          | 1-19 (J) |
| 1-3-5. デジタルビデオルーティング<br>スイッチャーDVS-V1201<br>との接続 ..... | 1-20 (J) |
| 1-4. 主な仕様 .....                                       | 1-21 (J) |

### 1. OPERATION

|   |           |
|---|-----------|
| 1-1. Overview.....  | 1 - 1 (E) |
| 1-1-1. Principal Features.....  | 1 - 1 (E) |
| 1-1-2. Important Notes.....   | 1 - 2 (E) |
| 1-2. Location and Function of Parts .....                                 | 1 - 3 (E) |
| 1-2-1. Front Panel and Interior .....                                     | 1 - 3 (E) |
| 1-2-2. Connectors on the Rear Panel .....                                 | 1-10 (E)  |
| 1-3. System Connections.....  | 1-13 (E)  |
| 1-3-1. Connection with Dedicated Control Panel<br>and I/O Equipment ..... | 1-13 (E)  |
| 1-3-2. Connection with DVS-8000/8000C<br>Digital Video Switcher.....      | 1-14 (E)  |
| 1-3-3. Connection with DME-9000 Digital<br>Multi Effects .....            | 1-15 (E)  |
| 1-3-4. Connection with BVE-9000 Editing<br>Control System .....           | 1-16 (E)  |
| 1-3-5. Connection with DVS-V1201 Digital<br>Video Routing Switcher .....  | 1-17 (E)  |
| 1-4. Principal Specifications .....                                       | 1-18 (E)  |

## 2. 設 置

|                         |          |
|-------------------------|----------|
| 2-1. 開梱と再梱包 .....       | 2-1 (J)  |
| 2-2. 使用環境 .....         | 2-2 (J)  |
| 2-3. 外形寸法 .....         | 2-2 (J)  |
| 2-4. 電源電圧 .....         | 2-2 (J)  |
| 2-5. 設置時の確認と調整 .....    | 2-3 (J)  |
| 2-5-1. 電源電圧の設定 .....    | 2-3 (J)  |
| 2-5-2. カード基板の設置方法 ..... | 2-4 (J)  |
| 2-6. 接続コネクタ .....       | 2-5 (J)  |
| 2-7. コネクタの入出力信号 .....   | 2-5 (J)  |
| 2-8. ラックマウントの方法 .....   | 2-8 (J)  |
| 2-9. 付属アクセサリ .....      | 2-12 (J) |
| 2-10. 別売アクセサリ .....     | 2-12 (J) |

## 3. サービスインフォメーション

|                           |         |
|---------------------------|---------|
| 3-1. 外装の開閉・取り外し .....     | 3-1 (J) |
| 3-2. プリント基板の配置図 .....     | 3-2 (J) |
| 3-3. 回路構成 .....           | 3-3 (J) |
| 3-4. 基板の取り付け・取り外し方法 ..... | 3-4 (J) |
| 3-5. 延長基板の使い方 .....       | 3-5 (J) |
| 3-6. サービス部品 .....         | 3-6 (J) |

## 4. 主要部品の交換

|                             |         |
|-----------------------------|---------|
| 4-1. 主要部品の配置図 .....         | 4-1 (J) |
| 4-2. スイッチングレギュレーターの交換 ..... | 4-1 (J) |
| 4-3. DC ファンの交換 .....        | 4-3 (J) |

## 5. テクニカルインフォメーション

|                    |         |
|--------------------|---------|
| 5-1. 不良箇所の診断 ..... | 5-1 (J) |
| 5-2. 自己診断 .....    | 5-1 (J) |

## 2. INSTALLATION

|  |          |
|--|----------|
| 2-1. UNPACKING AND REPACKING .....                             | 2-1 (E)  |
| 2-2. OPERATING ENVIRONMENT .....                               | 2-2 (E)  |
| 2-3. EXTERNAL DIMENSIONS .....                                 | 2-2 (E)  |
| 2-4. POWER VOLTAGE .....                                       | 2-2 (E)  |
| 2-5. CONFIRMATION AND ADJUSTMENT<br>AT INSTALLATION TIME ..... | 2-3 (E)  |
| 2-5-1. Setting the Power Voltage ...                           | 2-3 (E)  |
| 2-5-2. How to Install the Card<br>Boards .....                 | 2-5 (E)  |
| 2-6. CONNECTORS .....  | 2-6 (E)  |
| 2-7. INPUT/OUTPUT SIGNALS OF<br>CONNECTOR .....                | 2-6 (E)  |
| 2-8. PACK MOUNTING .....                                       | 2-9 (E)  |
| 2-9. SUPPLIED ACCESSORIES .....                                | 2-13 (E) |
| 2-10. OPTIONAL ACCESSORIES .....                               | 2-13 (E) |

## 3. SERVICE INFORMATION

|  |         |
|--|---------|
| 3-1. REMOVAL OF PANEL .....                        | 3-1 (E) |
| 3-2. LOCATION OF PRINTED<br>CIRCUIT BOARDS .....   | 3-2 (E) |
| 3-3. CIRCUIT INFORMATION .....                     | 3-3 (E) |
| 3-4. HOW TO INSTALL AND REMOVE<br>THE BOARDS ..... | 3-4 (E) |
| 3-5. HOW TO USE THE EXTENSION<br>BOARDS .....      | 3-5 (E) |
| 3-6. SERVICE PARTS .....                           | 3-6 (E) |

## 4. REPLACEMENT OF MAIN PARTS

|   |         |
|---|---------|
| 4-1. LOCATION OF THE MAIN PARTS ..                    | 4-1 (E) |
| 4-2. REPLACEMENT OF<br>THE SWITCHING REGULATORS ..... | 4-1 (E) |
| 4-3. REPLACEMENT OF<br>THE DC FAN .....               | 4-3 (E) |

## 5. TECHNICAL INFORMATION

|                                      |         |
|--------------------------------------|---------|
| 5-1. DEFECTIVE PARTS DIAGNOSTICS ... | 5-1 (E) |
| 5-2. SELF-DIAGNOSTICS .....          | 5-2 (E) |

## 6. BLOCK DIAGRAM

|               |      |
|---------------|------|
| OVERALL ..... | 6-3  |
| ALU-11 .....  | 6-5  |
| CPU-82 .....  | 6-9  |
| DLP-9 .....   | 6-15 |
| DLP-10 .....  | 6-19 |
| DPR-15 .....  | 6-23 |
| DPR-16 .....  | 6-28 |
| DPR-17 .....  | 6-37 |
| DPR-18 .....  | 6-40 |
| MEM-41 .....  | 6-45 |

## 7. SEMICONDUCTOR ELECTRODES

|                                |     |
|--------------------------------|-----|
| SEMICONDUCTOR ELECTRODES ..... | 7-1 |
|--------------------------------|-----|

## 8. SCHEMATIC DIAGRAMS

|                             |       |
|-----------------------------|-------|
| CIRCUIT INFORMATION .....   | 8-2   |
| LOCATION OF PRINTED CIRCUIT |       |
| BOARD .....                 | 8-3   |
| ALU-11 .....                | 8-4   |
| CPU-82 .....                | 8-23  |
| DLP-9 .....                 | 8-37  |
| DLP-10 .....                | 8-82  |
| DPR-15 .....                | 8-104 |
| DPR-16 .....                | 8-139 |
| DPR-17 .....                | 8-175 |
| DPR-18 .....                | 8-201 |
| MEM-41 .....                | 8-228 |
| CN-456 .....                | 8-249 |
| CN-462 .....                | 8-253 |
| CN-463 .....                | 8-257 |
| MB-305 .....                | 8-263 |
| FRAME .....                 | 8-279 |

## 9. PRINTED CIRCUIT BOARDS

|              |      |
|--------------|------|
| ALU-11 ..... | 9-1  |
| CPU-82 ..... | 9-5  |
| DLP-9 .....  | 9-11 |
| DLP-10 ..... | 9-15 |
| DPR-15 ..... | 9-19 |

|              |      |
|--------------|------|
| DPR-16 ..... | 9-23 |
| DPR-17 ..... | 9-27 |
| DPR-18 ..... | 9-31 |
| MEM-41 ..... | 9-35 |
| CN-456 ..... | 9-39 |
| CN-462 ..... | 9-39 |
| CN-463 ..... | 9-43 |
| MB-305 ..... | 9-47 |
| EX-270 ..... | 9-51 |

## 10. SPARE PARTS

|                                   |       |
|-----------------------------------|-------|
| 10-1. PARTS INFORMATION .....     | 10-1  |
| 10-2. EXPLODED VIEW .....         | 10-1  |
| 10-2-1. Chassis (1) .....         | 10-3  |
| 10-2-2. Chassis (2) .....         | 10-5  |
| 10-2-3. Power Unit .....          | 10-7  |
| 10-2-4. Rear Panel .....          | 10-9  |
| 10-3. ELECTRICAL PARTS LIST ..... | 10-11 |

# Section 1. OPERATION

## 1-1. Overview

The DME-5000 digital multi effects produces high image quality effects by all-digital processing. It can be controlled from a BKDM-5070 control panel, or operated together with a DVS-8000/8000C digital video switcher system, and controlled from the same BKDS-8010 control panel as the switcher system.

### 1-1-1. Principal Features

#### **Serial digital I/O**

The unit uses serial digital I/O for all connections, each of which therefore requires only a single coaxial cable. Compared with conventional parallel interfaces, this feature reduces the effort required to set up connections, and the absence of skew timing errors increases reliability and allows longer-distance transmission.

#### **Compatible with both composite and component formats**

With four optional I/O boards (BKDM-5010/5011/5012/5013) available, the unit is compatible with all combinations of component and composite, digital and analog formats. When connecting the unit to an existing system, select the optional I/O board suitable for the switcher to be used.

#### **Integrated operation with a DVS-8000 series switcher system**

You can connect a DME-5000 unit to a DVS-8000/8000C switcher system, and control both units from a single control panel. This provides an integrated system, operating entirely in digital mode, and yielding perfect picture quality. The high-level DME LINK® function supports effects such as DME wipes, which combine video effects with the switcher wipe function.

#### **Concurrent multichannel operation**

You can connect two to four DME-5000 units together and use the same control panel to control up to four channels simultaneously or a selected channel only.

#### **Image combination function**

You can connect together two or more DME-5000 units fitted with the BKDM-5020/5021 digital combiner board and combine up to four channels in a single image. This combination function uses special signals containing depth information, which enables highly realistic effects, in which the images can be manipulated in 3-dimensional space.

#### **Automatic switching between frame and field processing**

The motion detector automatically switches the unit between frame mode for frame-by-frame image processing and field mode for field-by-field image processing according to the movement of the image. Each frame of image information processed in frame mode is equivalent to two fields of image information, so that the frame mode ensures no degradation of picture quality. To produce a new image using effects, frame mode will enable more precise processing than field mode. However, for processing to realize natural and smooth movement of an image, the field mode will be more suitable than the frame mode.

## 1-1-2. Important Notes

### Handling circuit boards

---

It should not normally be necessary to remove or replace boards. For maintenance purposes, or when installing optional boards, observe the following precautions:

- Before inserting or removing a board, ensure that the power is switched off (see page 1-4(E)).
- Before turning the power on after inserting a new board, make sure that the number on the board matches that on the slot. See Section 3-4 "How to Install and Remove the Boards" for more details.

These precautions are important to avoid damage to the circuit boards.

### Circuit breaker

---

If a current surge occurs in the unit, the breaker will trip and cut off the power automatically (see page 1-4(E)).

If the power does not come on when you switch on, the breaker may have tripped. Open the front panel and push the BREAKER button in.

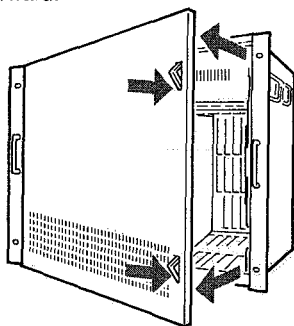
## 1-2. Location and Function of Parts

### 1-2-1. Front Panel and Interior

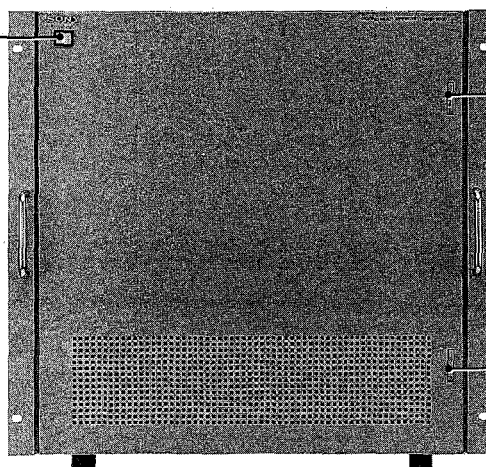
#### Front panel

##### How to open the front panel

Press the bottom end of each door handle, and pull forward.

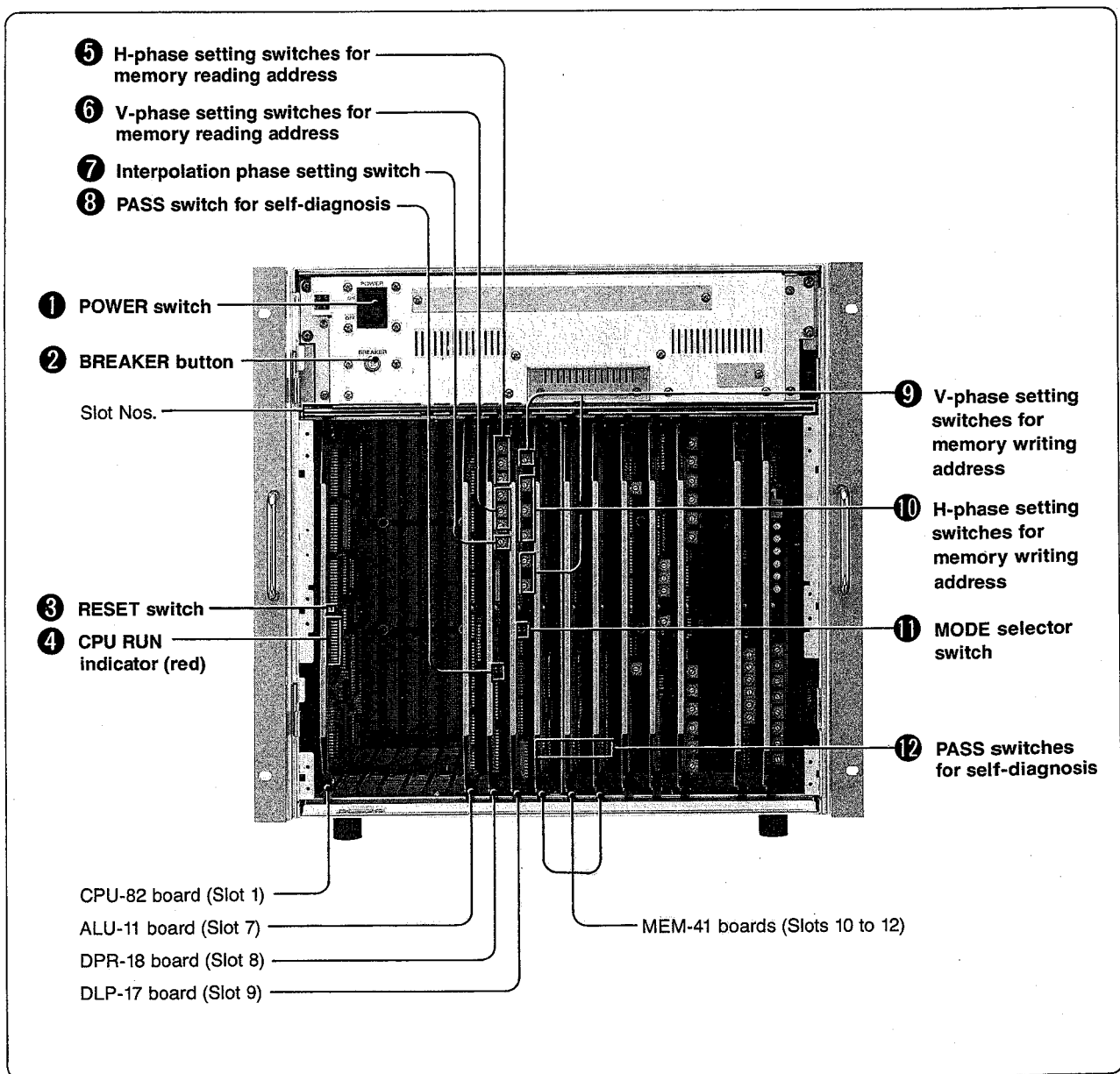


POWER indicator



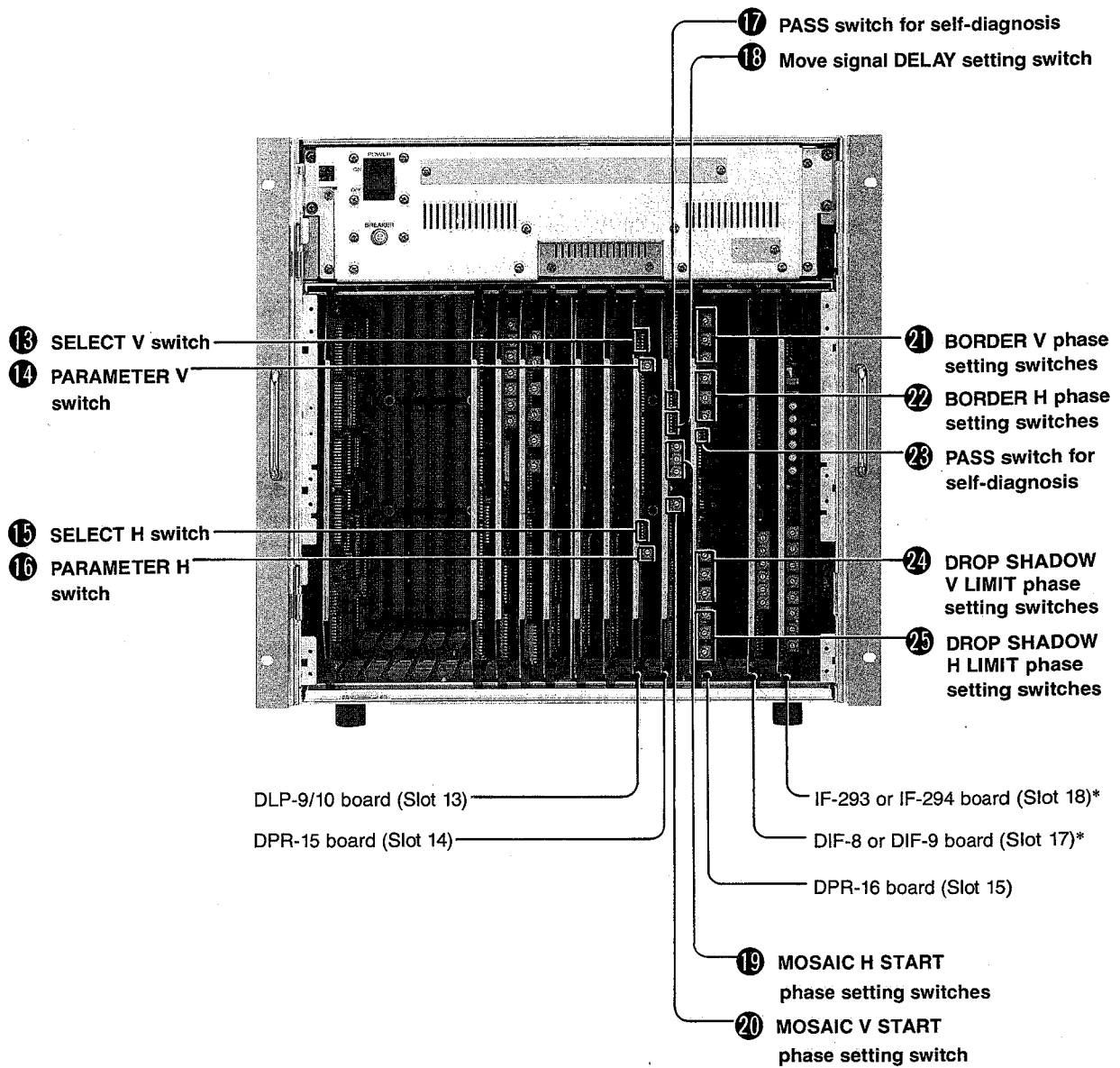
Door handles

## Interior



- 1 POWER switch**  
Powers the unit on and off.
- 2 BREAKER button**  
If an excess current flows in the unit, this button jumps out to cut off the power supply automatically.
- 3 RESET switch**  
Resets the CPU of the unit.
- 4 CPU RUN indicator (red)**  
Comprises LEDs which flash in sequence while the CPU is operating normally.
- 5 H-phase (horizontal phase) setting switches for memory reading address**  
Three dip switches used to set the horizontal phase of the image memory reading address for test purposes. The switches are arranged vertically, with the most significant bit at the top (2-4-4 bits).
- 6 V-phase (vertical phase) setting switches for memory reading address**  
Three dip switches used to set the vertical phase of the image memory reading address for test purposes. The switches are arranged vertically, with the most significant bit at the top (1-4-4 bits).
- 7 Interpolation phase setting switch**  
Sets the phase of data to be used to interpolate the data read from the image memory. Keep this switch set at 3h.
- 8 PASS switch for self-diagnosis**  
Setting bit 1 of this switch to ON causes the internal operation of the DPR-18 and ALU-11/12/13 boards to be entirely skipped. Keep the bit 1 set to OFF except when carrying out self-diagnostic testing of the unit.
- 9 V-phase (vertical phase) setting switches for memory writing address**  
Three dip switches used to set the vertical phase of the image memory writing address for test purposes. The switches are arranged vertically, (sandwiched round the H-phase setting switches 10), with the most significant bit at the top (1-4-4 bits).
- 10 H-phase (horizontal phase) setting switches for memory writing address**  
Three dip switches used to set the horizontal phase of the image memory writing address for test purposes. The switches are arranged vertically, with the most significant bit at the top (2-4-4 bits).
- 11 MODE selector switch**  
Consists of two bits used to change the operation modes of the unit as follows:  
Bit 1: ON = 525 mode, OFF = 625 mode  
Bit 2: ON = D1 mode, OFF = D2 mode  
Ensure that the settings of these bits are consistent with the setting of the switch S3 on the CPU-82 board.
- 12 PASS switch for self-diagnosis**  
Setting bit 1 of this switch to ON causes the internal operation of the MEM-41 board to be skipped. Keep bit 1 set to OFF except when carrying out self-diagnostic testing of the unit.





\* These are option boards, but since they are video I/O interfaces, this unit will not operate without them. For details, see "Optional boards" on page 1-9(E) and the operation and maintenance manuals for the respective boards.

- 13 SELECT V (vertical filter parameter) switch**  
Four bits, 1 to 4 from the top down, used to set vertical filter parameters as follows:  
Bit 1: Turns on/off the DEFOCUS circuit.  
Bit 2: Switches the parameter setting mode between manual and automatic.  
Bit 3: Selects the parameter setting range of 0-15 steps or 16-32 steps for manual setting mode.  
Bit 4: Reserved for future use.
- 14 PARAMETER V (vertical filter constant) switch**  
Sets the vertical filter constant to be applied when the manual setting mode is selected with the SELECT V switch bit 2 **13**. You can select one of the 16 settings 0-15 or 16-32 depending on the setting of the SELECT V switch bit 3 **13**.
- 15 SELECT H (horizontal filter parameter) switch**  
Six bits, 1 to 6 from the top down, used to set horizontal filter parameters as follows:  
Bit 1: Turns the Y-filter bypass on or off.  
Bit 2: Turns the C-filter bypass on or off.  
Bit 3: Turns the K-filter bypass on or off.  
Bit 4: Switches the parameter setting mode between manual and automatic.  
Bit 5: Selects the parameter setting range of 0-15 steps or 16-32 steps for manual setting mode.  
Bit 6: Turns the DEFOCUS circuit on or off.
- 16 PARAMETER H (horizontal filter constant) switch**  
Sets the horizontal filter constant to be applied when the manual setting mode is selected with the SELECT H switch bit 4 **15**. You can select one of the 16 settings 0-15 or 16-32 depending on the setting of the SELECT H switch bit 5 **15**.
- 17 PASS switch for self-diagnosis**  
Setting bits 1 to 3 of this switch to ON causes the Y, C, and K video signal circuits to be skipped, respectively. Keep the three bits set to OFF except when carrying out self-diagnostic testing.
- 18 Move signal DELAY setting switch**  
Sets the move signal delay. This switch is for use by Sony service personnel only.
- 19 MOSAIC H (horizontal) START phase setting switches**  
Three dip switches used to set the phase of the horizontal start address for mosaic effect generation. The switches are arranged vertically, with the most significant bit at the top (2-4-4 bits). These switches are for use by Sony service personnel.
- 20 MOSAIC V (vertical) START phase setting switch**  
Sets the delay (0H to 15H) for the vertical start address for mosaic effect generation. This switch is for use by Sony service personnel.
- 21 BORDER V (vertical) phase setting switches**  
Three dip switches used to set the vertical phase of the added border. The switches are arranged vertically, with the most significant bit at the top (1-4-4 bits). Change the settings of these switches when changing the mode selection between 525 and 625 lines.
- 22 BORDER H (horizontal) phase setting switches**  
Three dip switches used to set the horizontal phase of the additional border. The switches are arranged vertically, with the most significant bit at the top (2-4-4 bits). Change the settings of these switches when changing between D1 and D2 modes.

**23 PASS switch for self-diagnosis**

Setting bits 1 to 3 of this switch to ON causes the K, C, and Y video signal circuits to be skipped, respectively. Keep the three bits set to OFF except when carrying out self-diagnostic testing.

**24 DROP SHADOW V (vertical) LIMIT phase setting switches**

Three switches used to set the vertical phase for the limiters to prevent overflows at the top and bottom ends of the drop shadow. Of these switches arranged vertically, the top one is for setting the highest-order bit of the phase data, the second one for setting the next four bits, and the bottom one for setting the low-order four bits. These switches are for use by Sony service personnel.

**25 DROP SHADOW H (horizontal) LIMIT phase setting switches**

Three dip switches used to set the horizontal phase for the limiters to prevent overflows at the top and bottom ends of the drop shadow. The switches are arranged vertically, with the most significant bit at the top (2-4-4 bits). These switches are for use by Sony service personnel.

**Optional boards**

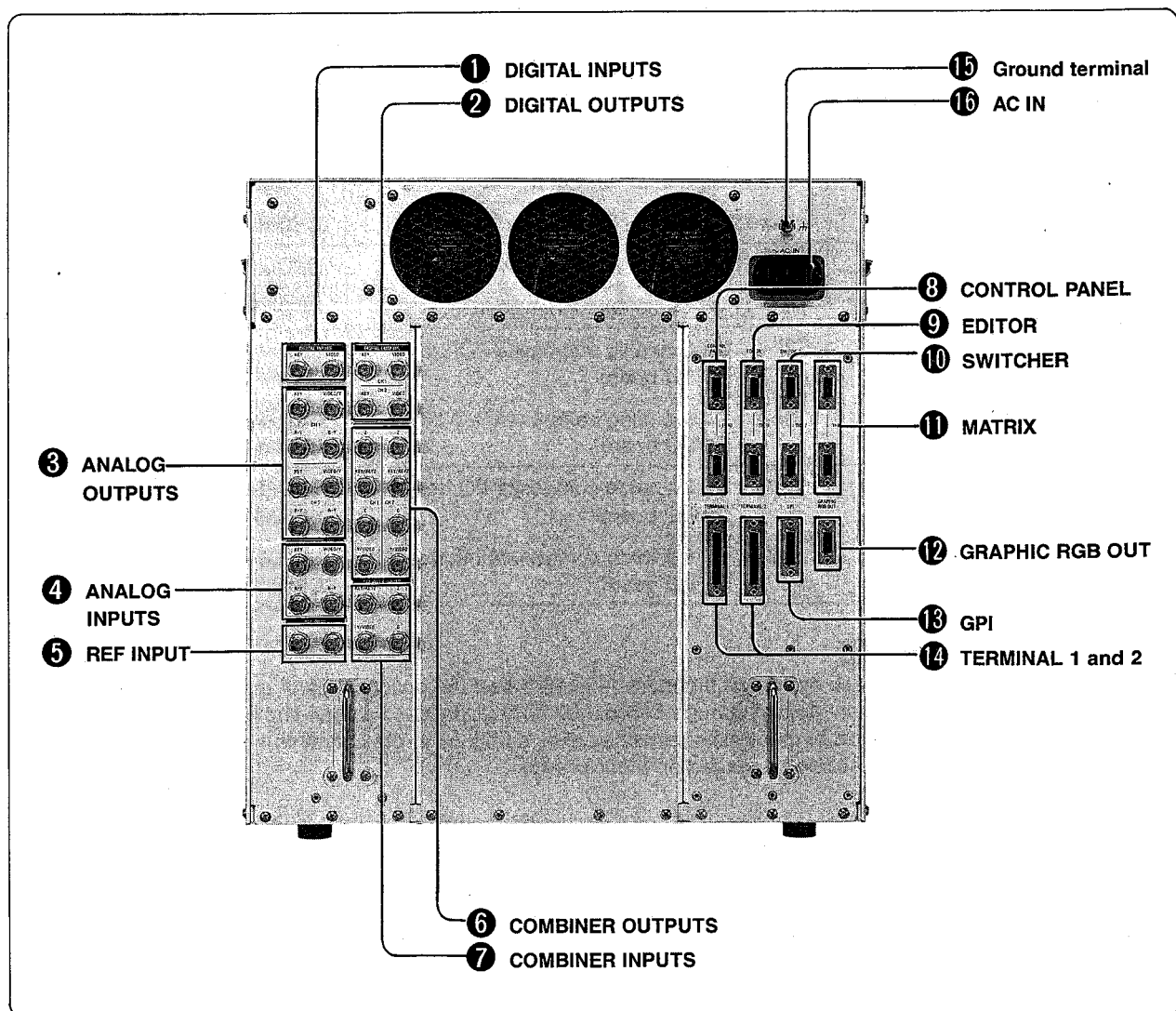
The following table gives the names and types of optional boards available, and the slot numbers of the circuit board slots reserved for them.

| Slot No. | Board Name   | Supplied as            |
|----------|--|------------------------|
| 2        | DSC-58 graphic data display board                      | BKDM-5060              |
| 5        | ALU-13 non-linear effects board                        | BKDM-5030              |
| 6        | ALU-12 non-linear effects board                        | BKDM-5030              |
| 16       | DLP-12 D2 digital combiner board                       | BKDM-5020              |
|          | DLP-11 D1 digital combiner board                       | BKDM-5021              |
| 17       | DIF-8 D2 & analog composite I/O board<br>D2 I/O board  | BKDM-5010<br>BKDM-5012 |
|          | DIF-9 D1 & analog component I/O board<br>D1 I/O board  | BKDM-5011<br>BKDM-5013 |
| 18       | IF-293 D2 & analog composite I/O board<br>D2 I/O board | BKDM-5010<br>BKDM-5012 |
|          | IF-294 D1 & analog component I/O board<br>D1 I/O board | BKDM-5011<br>BKDM-5013 |

**Note**

For each of the slot numbers 16 to 18, select the optional board appropriate for the system. You can change between D1 and D2 modes by changing the optional boards installed in these slots. In some cases a change in the operation mode may require settings to be changed on other boards.

## 1-2-2. Connectors on the Rear Panel

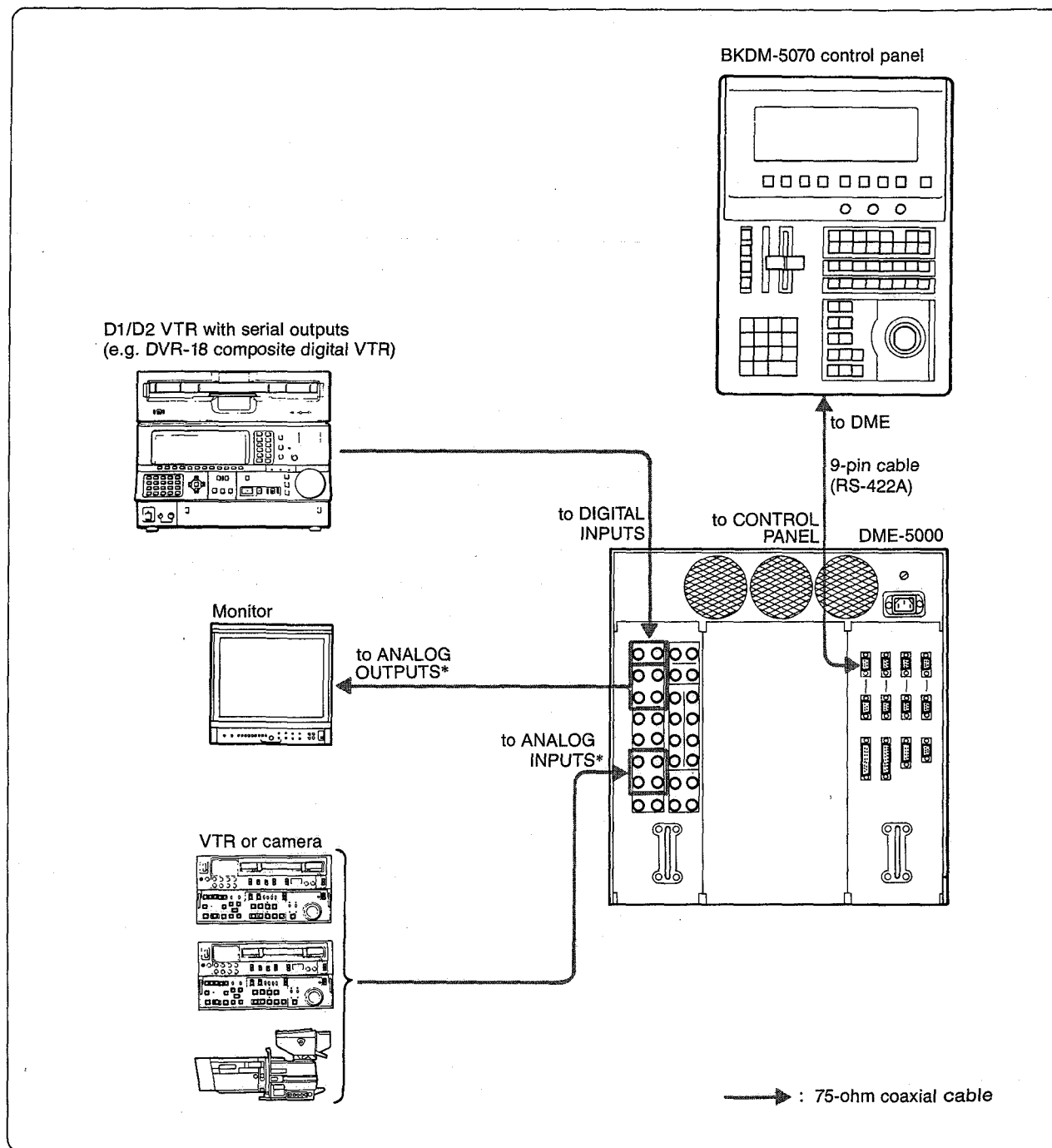


- 1 DIGITAL INPUTS (BNC)**  
Input the serial digital video and key signals. When the phase difference between the input signals and the reference signal input from the REF INPUT connectors **5** is in a range of  $-0.9H$  to  $+0.1H$ , the input signal phase is adjusted automatically. Using these connectors requires the BKDM-5010/5011/5012/5013 option board.
- 2 DIGITAL OUTPUTS (BNC)**  
Output the serial digital video and key signals. The connectors for channels 1 and 2 (CH1 and CH2) output the same signals. Using these connectors requires the BKDM-5010/5011/5012/5013 option board.
- 3 ANALOG OUTPUTS (BNC)**  
Output the analog video and key signals. The connectors for channels 1 and 2 (CH1 and CH2) output the same signals. Using these connectors requires the BKDM-5010/5011 option board.
- 4 ANALOG INPUTS (BNC)**  
Input the serial digital video and key signals. Using these connectors requires the BKDM-5010/5011 option board.
- 5 REF INPUT (reference video input) (BNC)**  
A pair of loop-through connectors used to input the analog reference video signal. The signal input to one of these connectors may be output from the other. When you use only one of them, be sure to terminate the other one with a 75-ohm terminator.
- 6 COMBINER OUTPUTS (BNC)**  
Output the serial digital signals to combine the image produced by the unit and those produced by other DME-5000 units. In D1 (component) format, VIDEO and KEYZ are used. In D2 (composite) format, Y, C, KEY, and Z are used. The connectors for channels 1 and 2 (CH1 and CH2) output the same signals. Using these connectors requires the BKDM-5020/5021 option board.
- 7 COMBINER INPUTS (BNC)**  
Input the serial digital signals to combine the image produced by the unit and those produced by other DME-5000 units. The combined image is output from the COMBINER OUTPUTS connector **6**. In D1 (component) format, VIDEO and KEYZ are used. In D2 (composite) format, Y, C, KEY, and Z are used. The connectors for channels 1 and 2 (CH1 and CH2) output the same signals. Using these connectors requires the BKDM-5020/5021 optional board.
- 8 CONTROL PANEL (D-SUB 9-pin)**  
A pair of loop-through connectors for connection to the BKDS-8010 or BKDM-5070 optional control panel. You may control up to four DME-5000 units using their loop-through CONTROL PANEL connectors from the same external control panel. These connectors comply with the RS422-A standard.
- 9 EDITOR (D-SUB 9-pin)**  
A pair of loop-through connectors for connection to external equipment such as the BVE-8000 editing control system, from which you can control the unit. You may daisy-chain two or more DME-5000 units using their loop-through EDITOR connectors to control them from the same external controller. These connectors comply with the RS422-A standard.
- 10 SWITCHER (D-SUB 9-pin)**  
If you connect either one of these loop-through connectors to the DVS-8000 digital video switcher, you can control one of the four internal auxiliary buses (AUX 1 to 4) of the switcher from the DVS-8000.

- 11 MATRIX (D-SUB 9-pin)**  
If you connect either one of these loop-through connectors to an external matrix switcher, you can use the matrix switcher to switch the signal to be input to the unit.
- 12 GRAPHIC RGB OUT (D-SUB 9-pin)**  
Outputs the analog video signal (R, G, B, and SYNC) for input to a video monitor with R, G, and B input connectors.  
Using this connector requires the BKDM-5060 option board.
- 13 GPI (general purpose I/O) (D-SUB 15-pin)**  
Used to input or output trigger signals (up to four each for input and output) from or to external equipment. You may set the conditions for inputting or outputting each trigger signal.
- 14 TERMINAL 1 and 2 (D-SUB 25-pin)**  
Connect these connectors to appropriate control terminals when required to initialize or inspect the unit.
- 15 Ground terminal**  
Use this terminal to ground the system.
- 16 AC IN**  
Connect this connector to an appropriate AC power supply using the power supply cord supplied.

## 1-3. System Connections

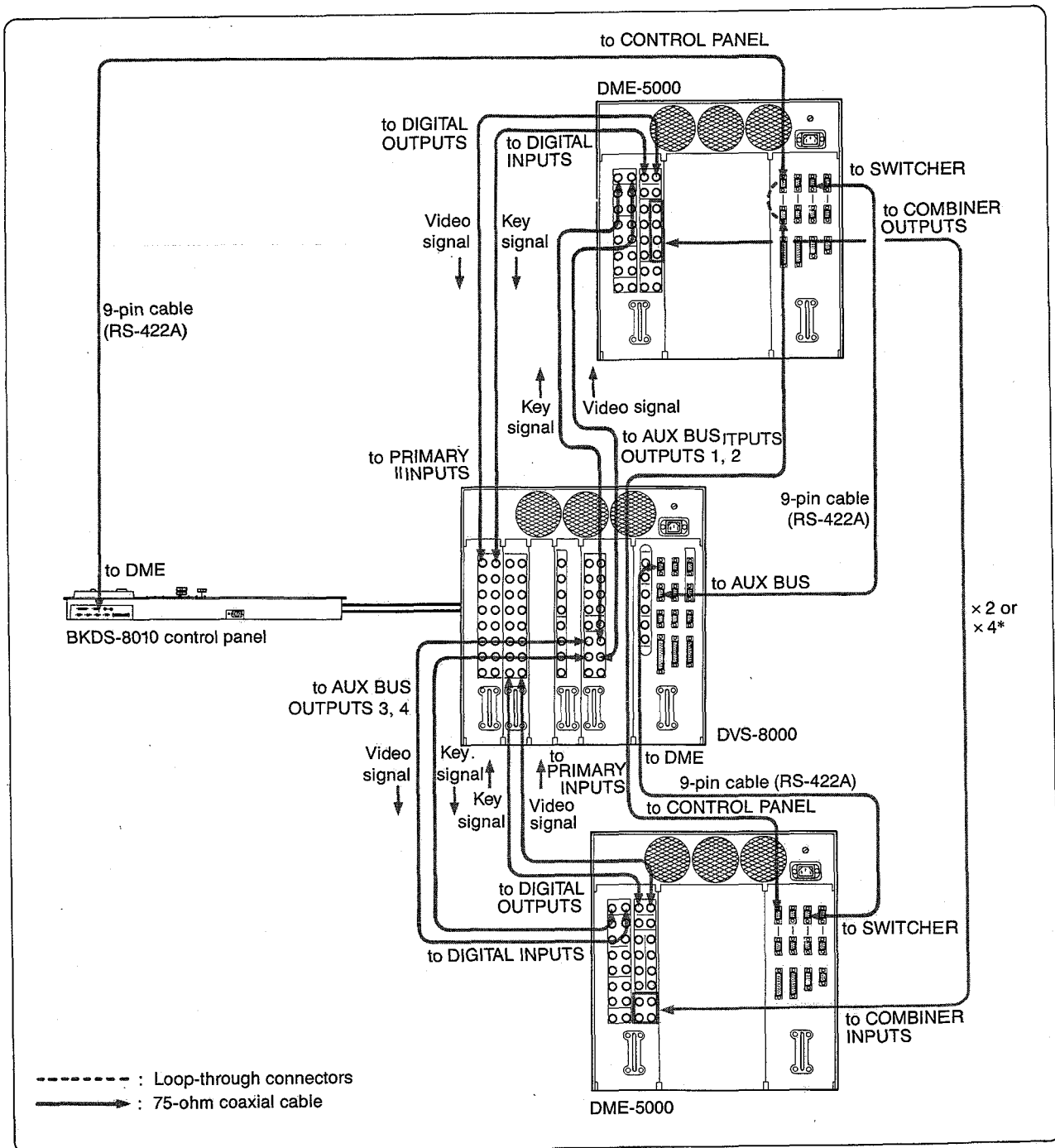
### 1-3-1. Connection with Dedicated Control Panel and I/O Equipment



\* Use Y, R-Y, B-Y, and KEY to input/output component signals, or VIDEO and KEY to input/output composite signals.



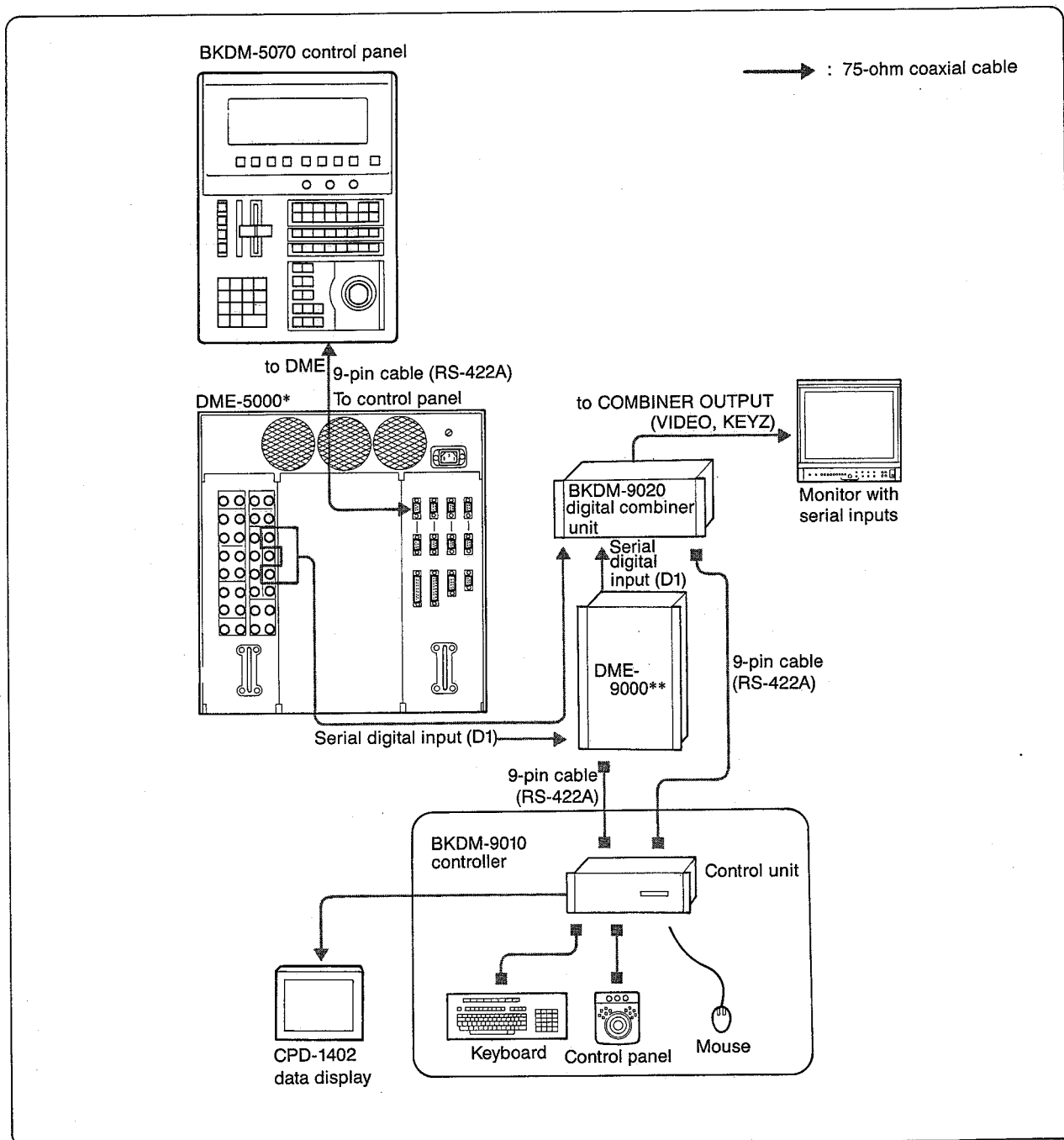
## 1-3-2. Connection with DVS-8000/8000C Digital Video Switcher



\* For D1 mode: Connect COMBINER OUTPUTS (VIDEO and KEYZ) and COMBINER INPUTS (VIDEO and KEYZ) with 2 cables.

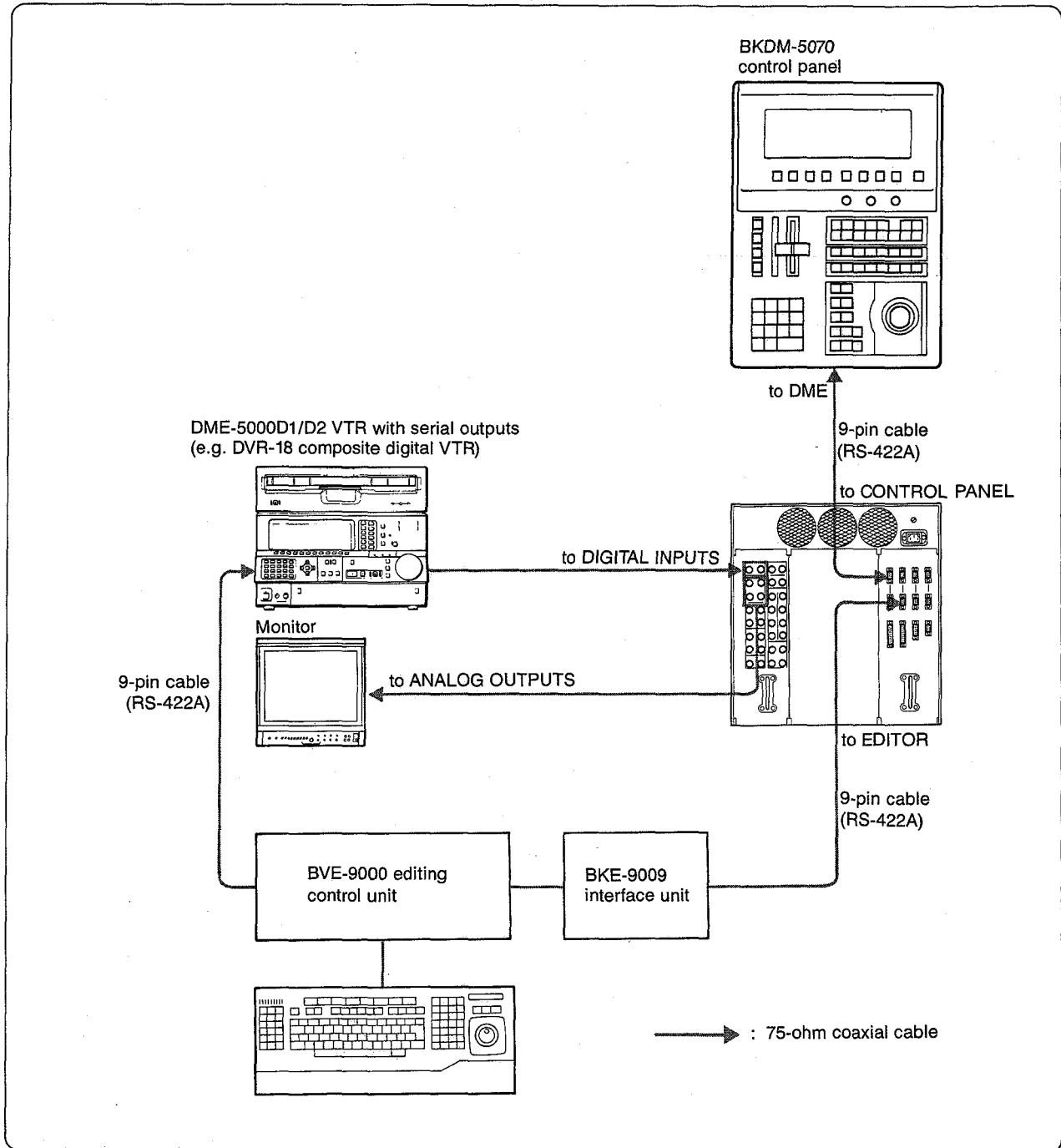
For D2 mode: Connect COMBINER OUTPUTS (Y, C, KEY, and Z) and COMBINER INPUTS (Y, C, KEY, and Z) with 4 cables.

### 1-3-3. Connection with DME-9000 Digital Multi Effects (for D1 mode)

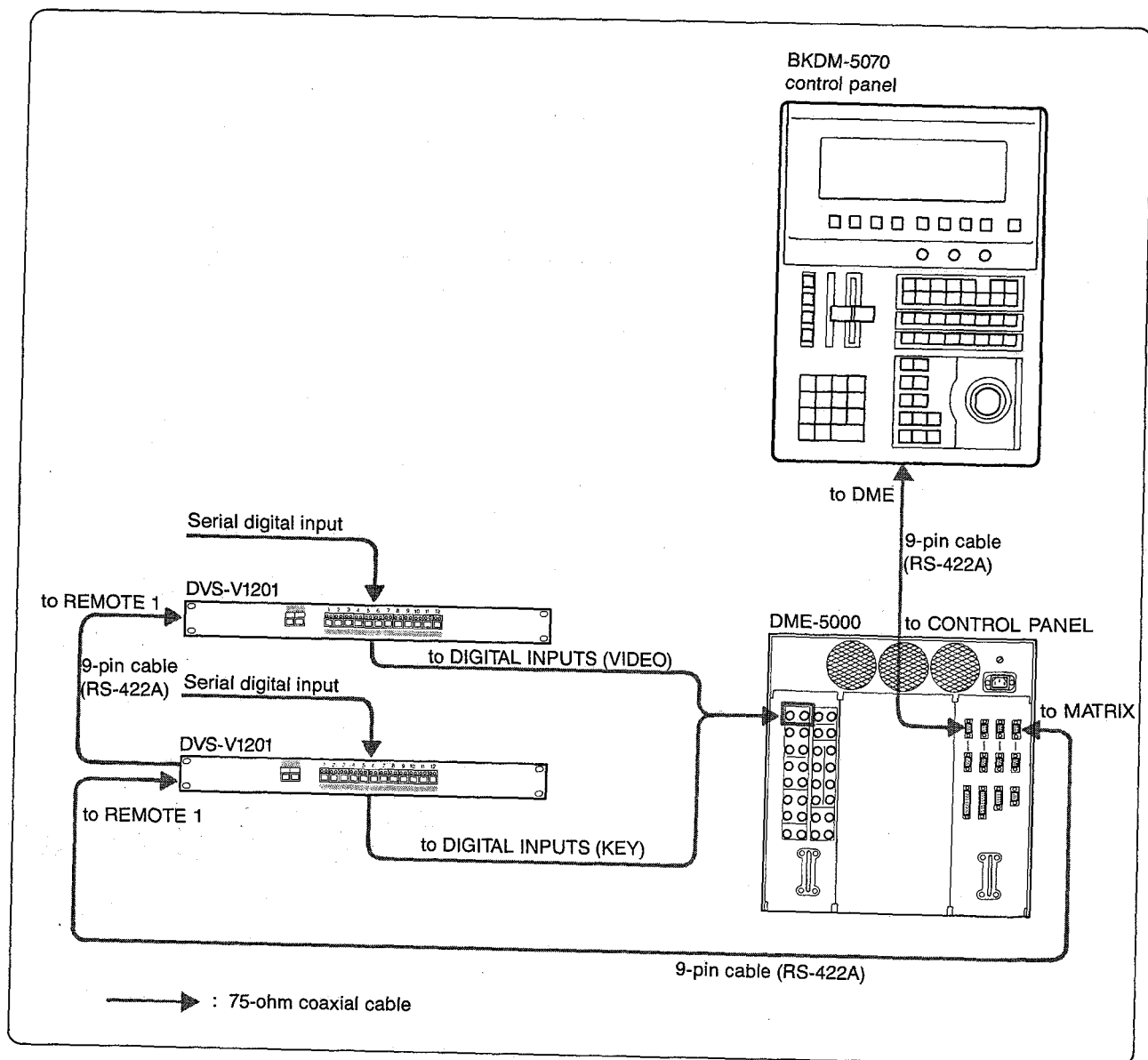


\* The DME-5000 requires the BKDM-5021 option board.  
 \*\* The DME-9000 requires the BKDM-9023 option board.

## 1-3-4. Connection with BVE-9000 Editing Control System



### 1-3-5. Connection with DVS-V1201 Digital Video Routing Switcher



# 1-4. Specifications

## General

|                                 |   |
|---------------------------------|---|
| Power requirements              | 85-132/170-265 V AC switched automatically                            |
| Power consumption               | Approx. 500 W (with full options)                                     |
| Temperature                     |   |
| Storage                         | -20°C to +55°C (-4°F to +131°F)                                       |
| Operating                       | 5°C to 40°C (41°F to 104°F)   |
| Operating within specifications | 10°C to 35°C (50°F to 95°F)   |
| Humidity                        |   |
| Operating                       | 80% RH or lower   |
| Operating within specifications | 70% RH or lower   |
| Dimensions (w/h/d)              | 424 x 443 x 450 mm, excluding projections<br>(16¾ x 17½ x 17¾ inches) |
| Weight                          | 50 kg (110 lb 4 oz)   |

## I/O connectors

|                 |  |
|-----------------|--|
| DIGITAL INPUTS  | Component<br>VIDEO For serial digital input signal, BNC (x 1), 75 ohms<br>KEY For serial digital input signal, BNC (x 1), 75 ohms<br>Composite<br>VIDEO For serial digital input signal, BNC (x 1), 75 ohms<br>KEY For serial digital input signal, BNC (x 1), 75 ohms     |
| DIGITAL OUTPUTS | Component<br>VIDEO For serial digital output signal, BNC (x 2), 75 ohms<br>KEY For serial digital output signal, BNC (x 2), 75 ohms<br>Composite<br>VIDEO For serial digital output signal, BNC (x 2), 75 ohms<br>KEY For serial digital output signal, BNC (x 2), 75 ohms |
| ANALOG INPUTS   | Component<br>Y, R-Y, B-Y<br>For analog component input signal, BNC (x 3)<br>Y: 1 Vp-p with SYNC<br>R-Y, B-Y: 0.7 Vp-p<br>KEY VS: 1 Vp-p, BNC (x 1)<br>Composite<br>VIDEO For analog composite input signal, BNC (x 1)<br>KEY VS: 1 Vp-p, BNC (x 1)                         |
| ANALOG OUTPUTS  | Component<br>Y, R-Y, B-Y<br>For analog component output signal, BNC (x 6)<br>Y: 1 Vp-p with SYNC<br>R-Y, B-Y: 0.7 Vp-p<br>KEY VS: 1 Vp-p, BNC (x 2)<br>Composite<br>VIDEO For analog composite output signal, BNC (x 2)<br>KEY VS: 1 Vp-p, BNC (x 2)                       |
| REF INPUT       | Component<br>For analog reference input signal, BNC (x 2)<br>B.B.: 0.3 Vp-p Hi-z loop-through<br>Composite<br>For analog reference video input signal<br>B.B.: 0.7 Vp-p  |

|                  |  |
|------------------|--|
| COMBINER INPUTS  | Component<br>VIDEO, KEYZ<br>For serial digital input signal, BNC (× 2)   |
|                  | Composite<br>Y, C, KEY, Z<br>For serial digital input signal, BNC (× 4)  |
| COMBINER OUTPUTS | Component<br>VIDEO, KEYZ<br>For serial digital output signal, BNC (× 4)  |
|                  | Composite<br>Y, C, KEY, Z<br>For serial digital output signal, BNC (× 8) |
| GRAPHIC RGB OUT  | For RGB and SYNC output signal, D-SUB 9-pin (× 1)                        |

#### Remote control signals

---

|               |   |
|---------------|---|
| CONTROL PANEL | Complying with RS-422A standard (D-SUB 9-pin)       |
| EDITOR        | Complying with RS-422A standard (D-SUB 9-pin)       |
| SWITCHER      | Complying with RS-422A standard (D-SUB 9-pin)       |
| MATRIX        | Complying with RS-422A standard (D-SUB 9-pin)       |
| TERMINAL 1    | Complying with RS-232C standard (D-SUB 25-pin)      |
| TERMINAL 2    | Complying with RS-232C standard (D-SUB 25-pin)      |
| GPI           | 4 inputs and 4 outputs, programmable (D-SUB 15-pin) |

#### Performance

---

|                       |   |
|-----------------------|---|
| Linearity             | DG: 2% max.<br>DP: 2° max.<br>(RAMP signal superimposed with 40-IRE subcarrier) |
| Frequency response    | ±0.25 dB, 200 kHz to 4.2 MHz  |
| Pulse characteristic  | K: 1% max., 2T pulse  |
| Signal-to-noise ratio | Over 52 dB  |

#### Sampling

---

|              |   |
|--------------|---|
| Clock        | D2 composite: 14.3 MHz<br>D1 component: 13.5 MHz          |
| Quantization | Analog: 9 bits<br>Digital I/O: 10 bits (8 bits in memory) |

#### Input phase difference absorption

---

Input error range allowable: -56 μs to +6 μs per frame

#### Accessories supplied

---

Rack mounting angles (1 set; fitted to the cabinet)  
EX-270 extension board (1)  
AC power cord (1)  
Plug adapter for AC power cord (1)  
75-ohm terminator (1)  
Operation and maintenance manual (1)

#### **Recommended equipment**

---

BKDM-5070 control panel for DME-5000  
DVS-8000/8000C digital video switcher  
BKDS-8010 control panel for DVS-8000/8000C  
BVE-9000 editing control system

#### **Optional circuit boards**

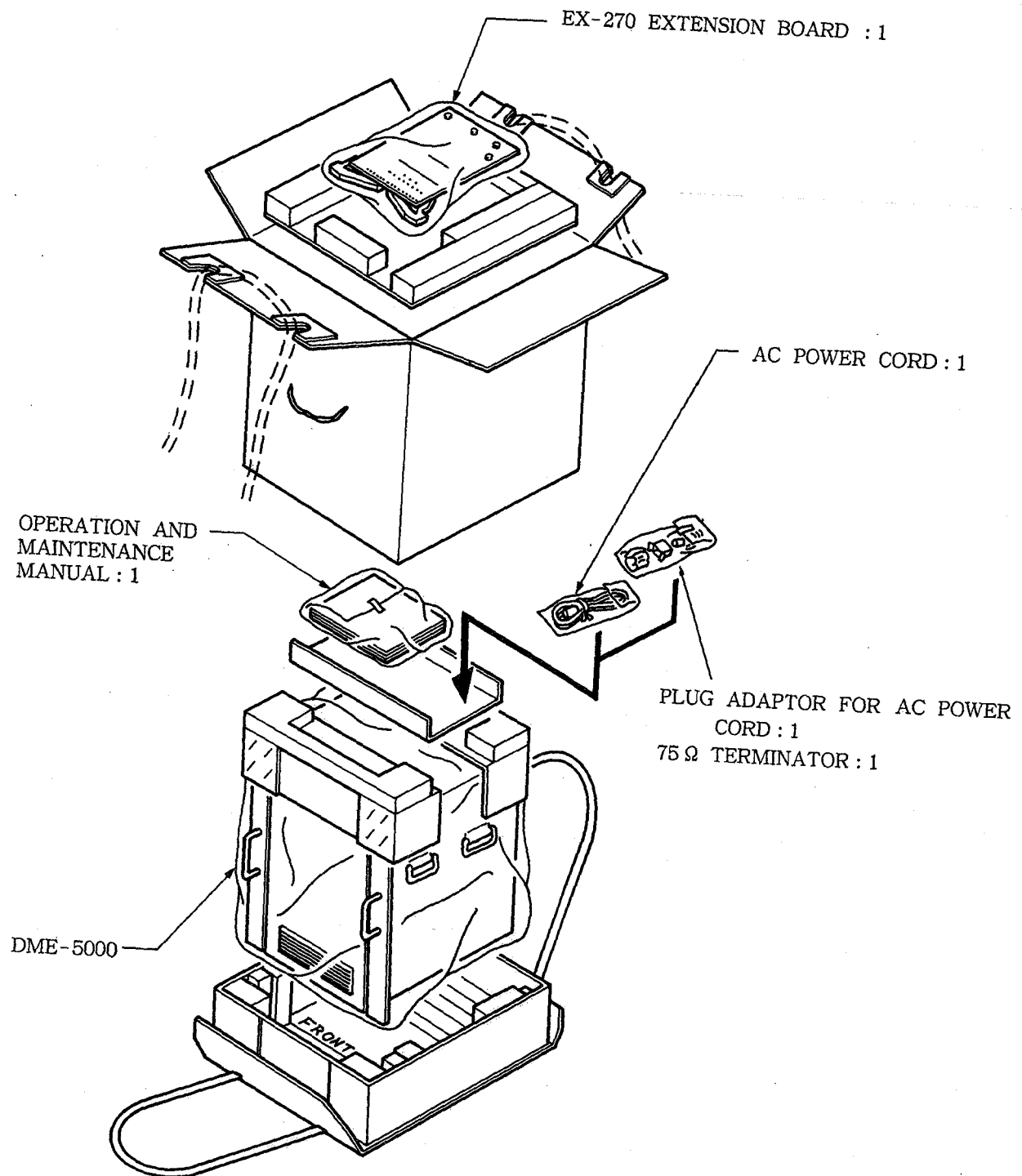
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BKDM-5060 graphic data display board  
BKDM-5021 D1 digital combiner board  
BKDM-5020 D2 digital combiner board  
BKDM-5013 D1 digital I/O board  
BKDM-5012 D2 digital I/O board  
BKDM-5011 D1 analog component I/O board  
BKDM-5010 D2 analog composite I/O board  
BKDM-5030 nonlinear effects board

Design and specifications are subject to change without notice.

## SECTION 2 INSTALLATION

### 2-1. UNPACKING AND REPACKING





## 2-2. OPERATING ENVIRONMENT

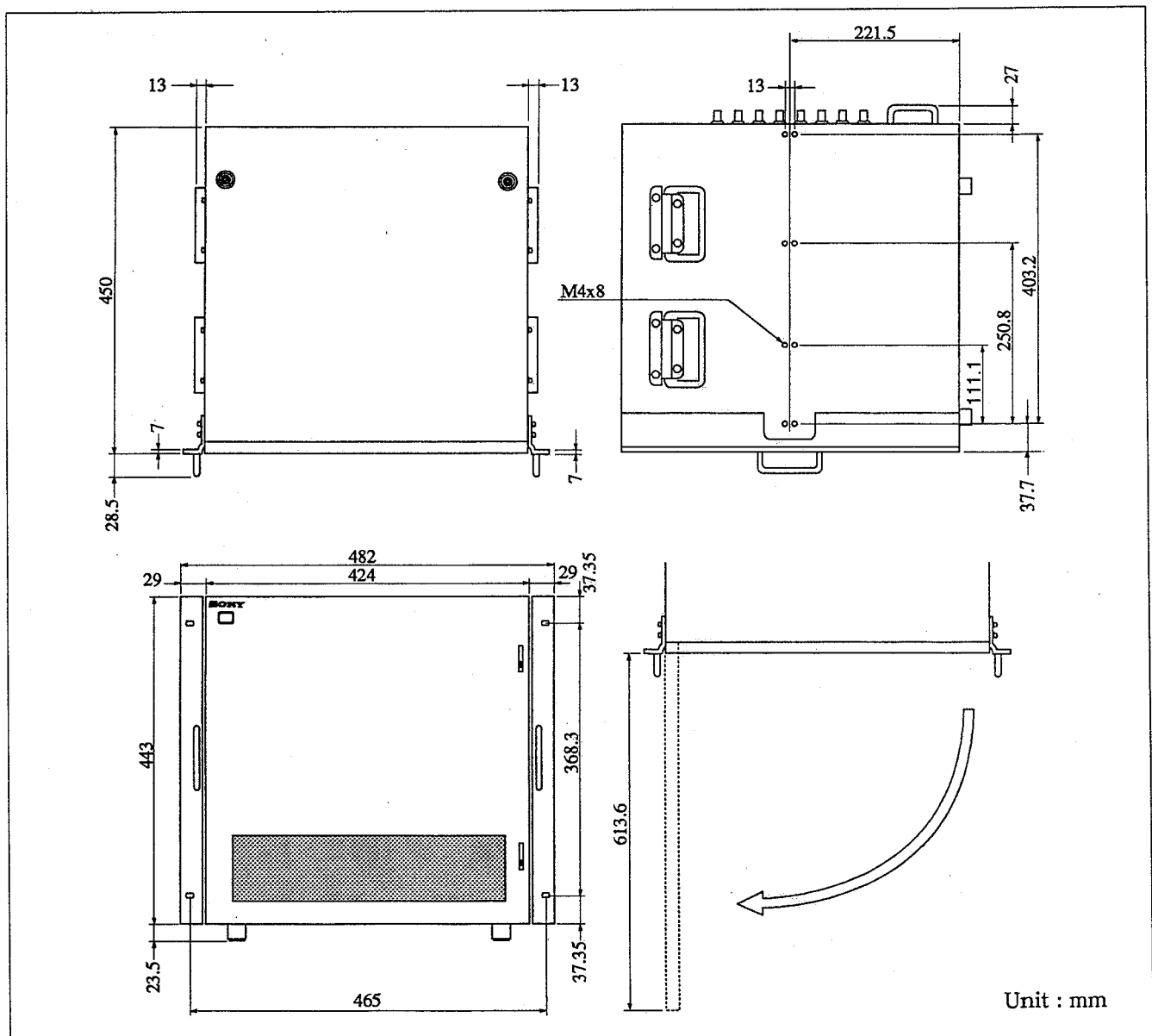
- Take special care regarding the air circulation of the installation site to prevent the inside temperature of the unit from rising. Make sure not to block the ventilation holes on the unit.
- The operating ambient temperature of the unit is 5°C to 40°C. Do not install the unit near a heat source.

## 2-3. EXTERNAL DIMENSIONS

- The external dimensions of the unit are given below.

## 2-4. POWER VOLTAGE

- The DME-5000 power uses a switching regulator and is designed for use with 100V to 115V. Therefore, you can use the unit in the 100V to 115V range without changing the power voltage.

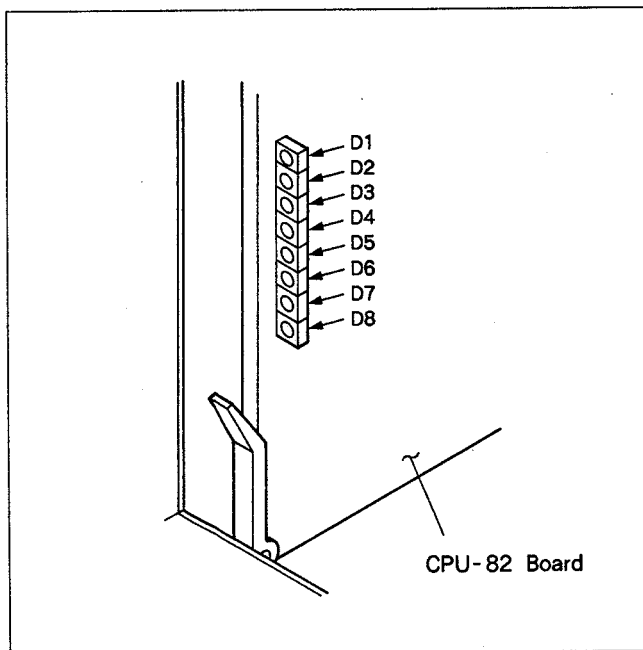


## 2-5. CONFIRMATION AND ADJUSTMENT AT INSTALLATION TIME

### 2-5-1. Setting the Power Voltage

After installing the unit, check the power voltage inside the unit.

- (1) Open the front panel. Check whether the power unit is properly inserted and fixed with 4 screws shown the arrows of front side (+ PWH4x8).
- (2) Turn ON the power and see whether the operation indicator LEDs (D1 to D8) on the edge of the CPU-82 board flash sequentially.



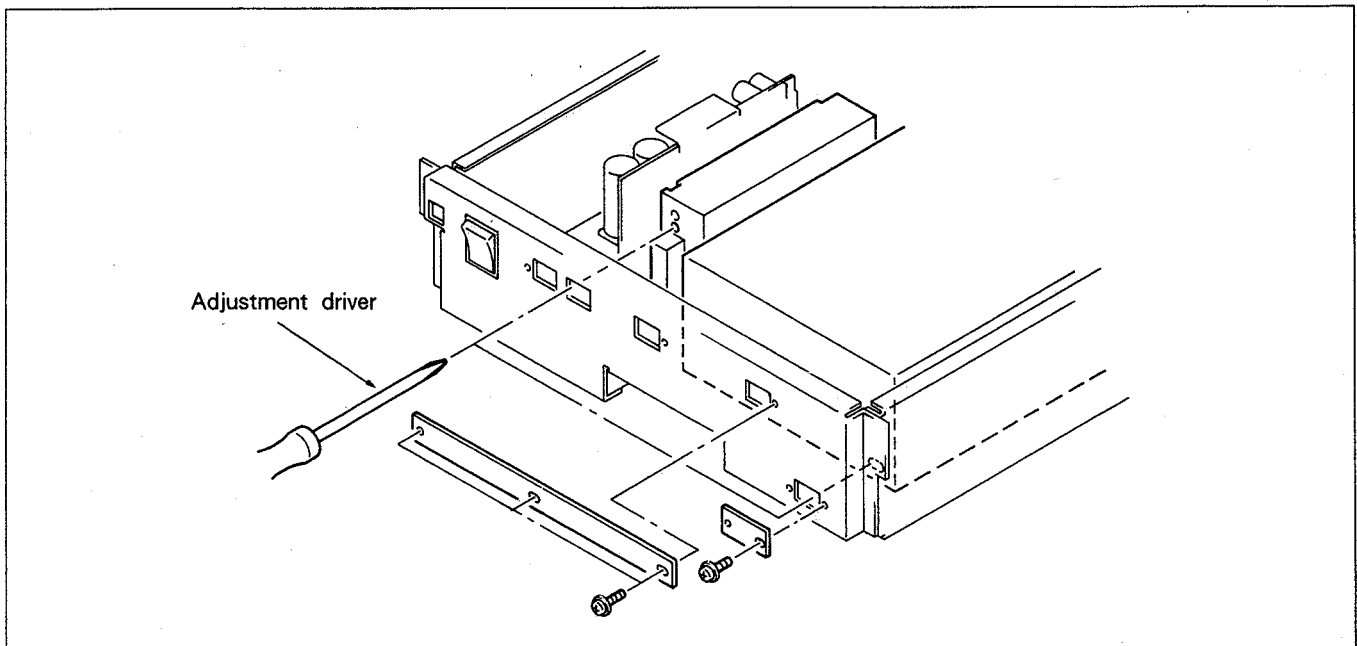
\* If none of the lamps light, there is no power voltage (+5V) output. If none of the lamps light and the fan is rotating, the +5V supply is defective. If none of the lamps light and the fan does not rotate, the primary side of the power unit is defective. If the lamps light and the LEDs stop flashing, this could mean a CPU-82 board error or voltage error in the +5V and  $\pm 12V$  supplies. Check and adjust the voltage using the procedure given below.

- ① See Section "3-5. How to Use the Extension Board" to connect the IF-293 board (slot No. 18) and the extension board.
- ② Measure the +5V at TP-1 (GND) and TP-2 (+5V) on the extension board and make sure you get  $+5V \pm 0.05V$ .
- ③ Measure TP-3 (+12V), TP-6 (GND), and TP-9 (-12V) on the extension board and make sure you get  $+12V \pm 0.1V$  and  $-12V \pm 0.1V$  respectively.
- ④ Measure the -5V at TP-1 (GND) and TP-12 (-5V) on the extension board and make sure you get  $-5V \pm 0.05V$ .

⑤ If the measured values differ from the specified values, adjust the voltage using the procedure given below. Adjust the digital voltmeter while connecting it to the TPs mentioned above.

1. Remove the adjustment window cover of the power unit.
2. Insert an adjustment driver through the adjustment window and turn the voltage adjustment volume of the corresponding switching regulator. Observing the digital voltmeter reading, adjust the voltage until you obtain the proper voltage.

Note : Set the power voltage with all the card boards inserted in their locations (excluding the option boards).



## 2-5-2. How to Install the Card Boards

Each printed circuit board must be installed in a designated slot of the DME-5000. Check whether each printed circuit board is installed in the proper slot as indicated in the table below.

| Slot No. | Board Name            | Slot No. | Board Name                         |
|----------|-----------------------|----------|------------------------------------|
| 1        | CPU-82                | 14       | DPR-15                             |
| 2        | DSC-58<br>(BKDM-5060) | 15       | DPR-16                             |
| 3        | Option Board          | 16       | DLP-12<br>(BKDM-5020)              |
| 4        | Option Board          |          | *DLP-11<br>(BKDM-5021)             |
| 5        | ALU-13<br>(BKDM-5030) | 17       | DIF-8<br>(BKDM-5010 or<br>-5012)   |
| 6        | ALU-12<br>(BKDM-5030) |          | *DIF-9<br>(BKDM-5011<br>or -5013)  |
| 7        | ALU-11                |          |                                    |
| 8        | DPR-18                | 18       | IF-293<br>(BKDM-5010 or<br>-5012)  |
| 9        | DPR-17                |          | *IF-294<br>(BKDM-5011<br>or -5013) |
| 10or12   | MEM-41<br>(YorK)      |          |                                    |
| 11       | MEM-41(C)             |          |                                    |
| 13       | DLP-9, 10             |          |                                    |

\*: Used by D1 mode.

- The name of the printed circuit board and the slot number in which the board can be installed are indicated on both sides A and B of the upper portion of the board toward you.

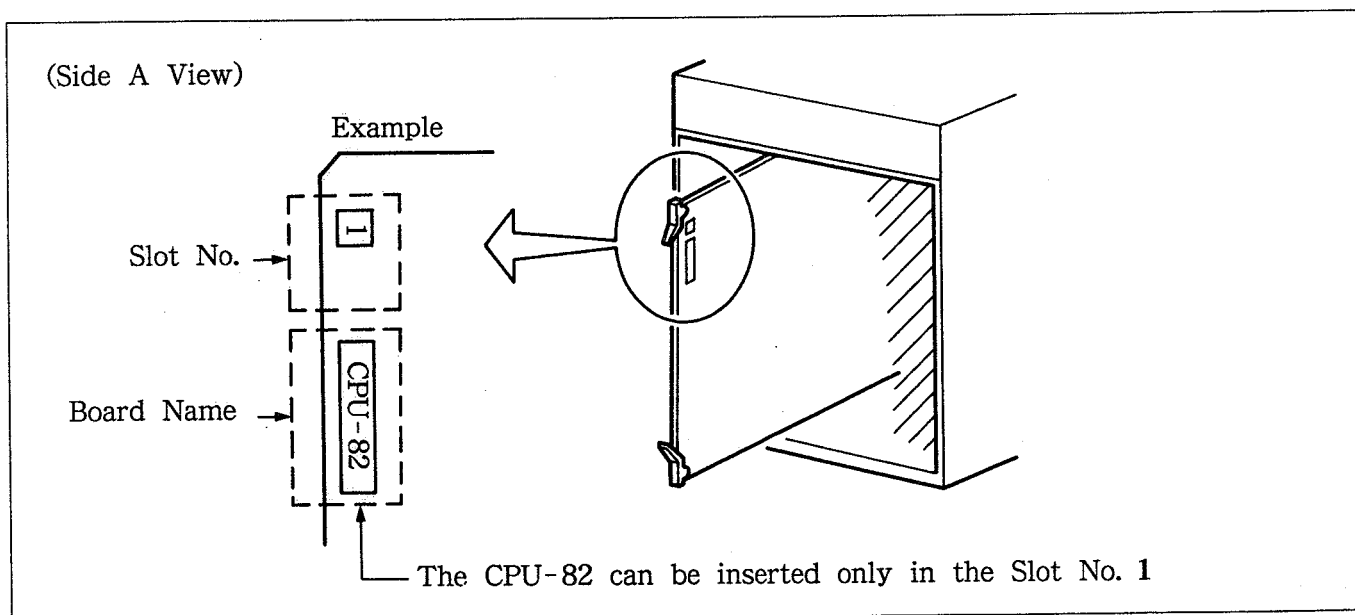
(See the illustration below.)

- The DME-5000 can accommodate various systems and expand its functions by installation of option boards. Install each option board in the designated range and sequence in accordance with the slot number indicated on the upper portion of the board toward you, in the same way as the main printed circuit boards.

Note 1) Check whether the connectors of each printed circuit board are properly connected to the MB-305 board of the main body.

Note 2) If the printed circuit boards are installed in a wrong sequence, system error will occur and the unit will not operate properly.

Note 3) When you add an option board or when you adjust a printed circuit board, make sure to check the power voltage.



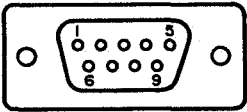
2-6. CONNECTORS

When you connect a cable to the connector on the rear panel during installation or maintenance service, use the hardware listed below or equivalent.

| Panel Display    | Connecting Connectors<br>/Part No. |
|------------------|------------------------------------|
| DIGITAL INPUTS   | BNC Connector<br>1-560-009-11      |
| DIGITAL OUTPUTS  |                                    |
| ANALOG INPUTS    |                                    |
| ANALOG OUTPUTS   |                                    |
| COMBINER INPUTS  |                                    |
| COMBINER OUTPUTS |                                    |
| REF INPUT        |                                    |
| TERMINAL 1       | D-SUB 25P<br>1-556-356-11          |
| TERMINAL 2       |                                    |
| GPI              | D-SUB 15P<br>1-566-355-11          |
| CONSOLE          | D-SUB 9P<br>1-566-354-11           |
| EDITOR           |                                    |
| AUX1             |                                    |
| AUX2             |                                    |
| GRAPHIC RGB OUT  |                                    |

2-7. INPUT/OUTPUT SIGNALS OF CONNECTOR

- DIGITAL INPUTS  
BNC connector, 75 Ω terminal
- ANALOG INPUTS  
BNC connector, 75 Ω terminal
- COMBINER INPUTS  
BNC connector
- REF INPUTS  
BNC connector, 75 Ω terminal
- DIGITAL OUTPUTS  
BNC connector, 75 Ω terminal
- ANALOG OUTPUTS  
BNC connector, 75 Ω terminal
- COMBINER OUTPUTS  
BNC connector
- CONTROL PANEL (RS-422)

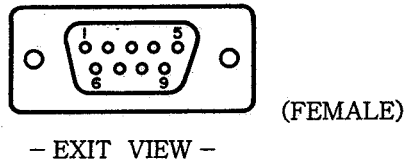


(FEMALE)

- EXIT VIEW -

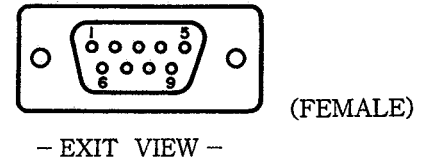
| Pin No. | Signal | Function                            |
|---------|--------|-------------------------------------|
| 1       | FG     | Frame ground                        |
| 2       | TXA -  | Transmit data (-) to control panel  |
| 3       | RXB +  | Receive data (+) from control panel |
| 4       | GND    | Ground                              |
| 5       | NC     | Not used                            |
| 6       | GND    | Ground                              |
| 7       | TXB +  | Transmit data (+) to control panel  |
| 8       | RXA -  | Receive data (-) from control panel |
| 9       | FG     | Frame ground                        |

• EDITOR (RS-422)



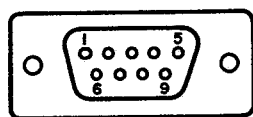
| Pin No. | Signal | Function                     |
|---------|--------|------------------------------|
| 1       | FG     | Frame ground                 |
| 2       | TXA -  | Transmit data (-) to editor  |
| 3       | RXB +  | Receive data (+) from editor |
| 4       | GND    | Ground                       |
| 5       | NC     | Not used                     |
| 6       | GND    | Ground                       |
| 7       | TXB +  | Transmit data (+) to editor  |
| 8       | RXA -  | Receive data (-) from editor |
| 9       | FG     | Frame ground                 |

• SWITCHER (RS-422)



| Pin No. | Signal | Function                       |
|---------|--------|--------------------------------|
| 1       | FG     | Frame ground                   |
| 2       | TXA -  | Transmit data (-) to switcher  |
| 3       | RXB +  | Receive data (+) from switcher |
| 4       | GND    | Ground                         |
| 5       | NC     | Not used                       |
| 6       | GND    | Ground                         |
| 7       | TXB +  | Transmit data (+) to switcher  |
| 8       | RXA -  | Receive data (-) from switcher |
| 9       | FG     | Frame ground                   |

• MATRIX (RS-422)

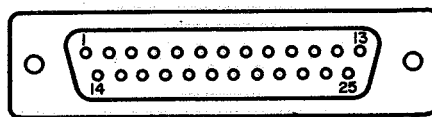


(FEMALE)

- EXIT VIEW -

| Pin No. | Signal | Function                              |
|---------|--------|---------------------------------------|
| 1       | FG     | Frame ground                          |
| 2       | TXA -  | Transmit data (-) to matrix switcher  |
| 3       | RXB +  | Receive data (+) from matrix switcher |
| 4       | GND    | Ground                                |
| 5       | NC     | Not used                              |
| 6       | GND    | Ground                                |
| 7       | TXB +  | Transmit data (+) to matrix switcher  |
| 8       | RXA -  | Receive data (-) from matrix switcher |
| 9       | FG     | Frame ground                          |

• TERMINAL 1 (RS-232C)

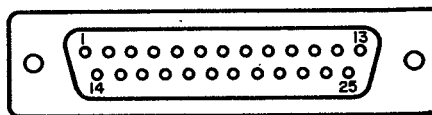


(FEMALE)

- EXIT VIEW -

| Pin No. | Signal | Function                   |
|---------|--------|----------------------------|
| 1       | FG     | Frame ground               |
| 2       | TXD    | Transmit data to terminal  |
| 3       | RXD    | Receive data from terminal |
| 4~6     | NC     | Not used                   |
| 7       | GND    | Ground                     |
| 8~25    | NC     | Not used                   |

• TERMINAL 2 (RS-232C)

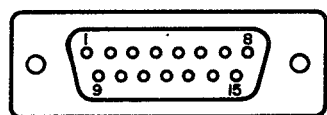


(FEMALE)

- EXIT VIEW -

| Pin No. | Signal | Function                   |
|---------|--------|----------------------------|
| 1       | FG     | Frame ground               |
| 2       | TXD    | Transmit data to terminal  |
| 3       | RXD    | Receive data from terminal |
| 4~6     | NC     | Not used                   |
| 7       | GND    | Ground                     |
| 8~25    | NC     | Not used                   |

• GPI (RS-422)

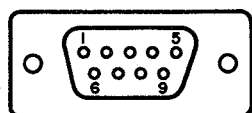


(FEMALE)

— EXIT VIEW —

| Pin No. | Signal | Pin No. | Signal |
|---------|--------|---------|--------|
| 1       | FG     | 9       | GPI01G |
| 2       | GPI01  | 10      | GPI02G |
| 3       | GPI02  | 11      | GPI03G |
| 4       | GPI03  | 12      | GPI04G |
| 5       | GPI04  | 13      | GPII1G |
| 6       | GPII1  | 14      | GPII2  |
| 7       | GPII3  | 15      | GPII4  |
| 8       | GPIIQ  |         |        |

• GRAPHIC RGB OUT



(FEMALE)

— EXIT VIEW —

| Pin No. | Signal | Pin No. | Signal |
|---------|--------|---------|--------|
| 1       | FG     | 6       | SYNC   |
| 2       | GND    | 7       | R      |
| 3       | GND    | 8       | G      |
| 4       | GND    | 9       | B      |
| 5       | GND    |         |        |

## 2-8. RACK MOUNTING

The DME-5000 can be used by mounting it on a 19-inch standard rack. When you use the rack, make sure to use the optional RMM-18DV rack mount rail.

### < Items to be procured for mounting >

- RMM-18DV rack mount rail
- Screws for attaching the plate nut (+B4x8) 8 pieces
- Rack mount screws (+RK5x16) 4 pieces
- Rack mount decoration washers 4 pieces  
(Sony part number 2-297-913-01)

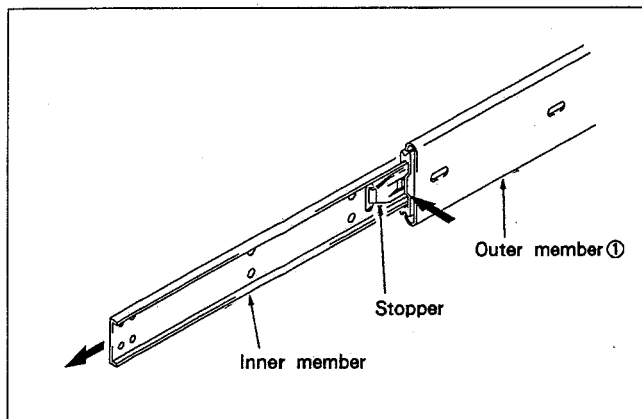
### < Precautions on installation >

- (1) When you install the DME-5000 and related units in the 19-inch standard rack, it is recommended that you install a ventilation fan to prevent the temperature in the rack from rising. Make sure that all the units in the rack operate in the temperature range of 5°C to 40°C.
- (2) When you install the unit in the rack, make sure to use the specified rail. The unit cannot be secured to the rack by the rack angles alone and such an installation is hazardous.
- (3) It is recommended to fix the rack to a solid floor with bolts. It is hazardous if the rack falls on you when you remove the unit from the rack.
- (4) The package of RMM-18DV rack mount rail contains a supplied installation manual. That manual, however, contains instructions for installing the DVR series VTRs on the rack. Since the procedure for mounting the DME-5000 differs partly from the procedure for mounting the VTR, use the procedure given in this manual instead.

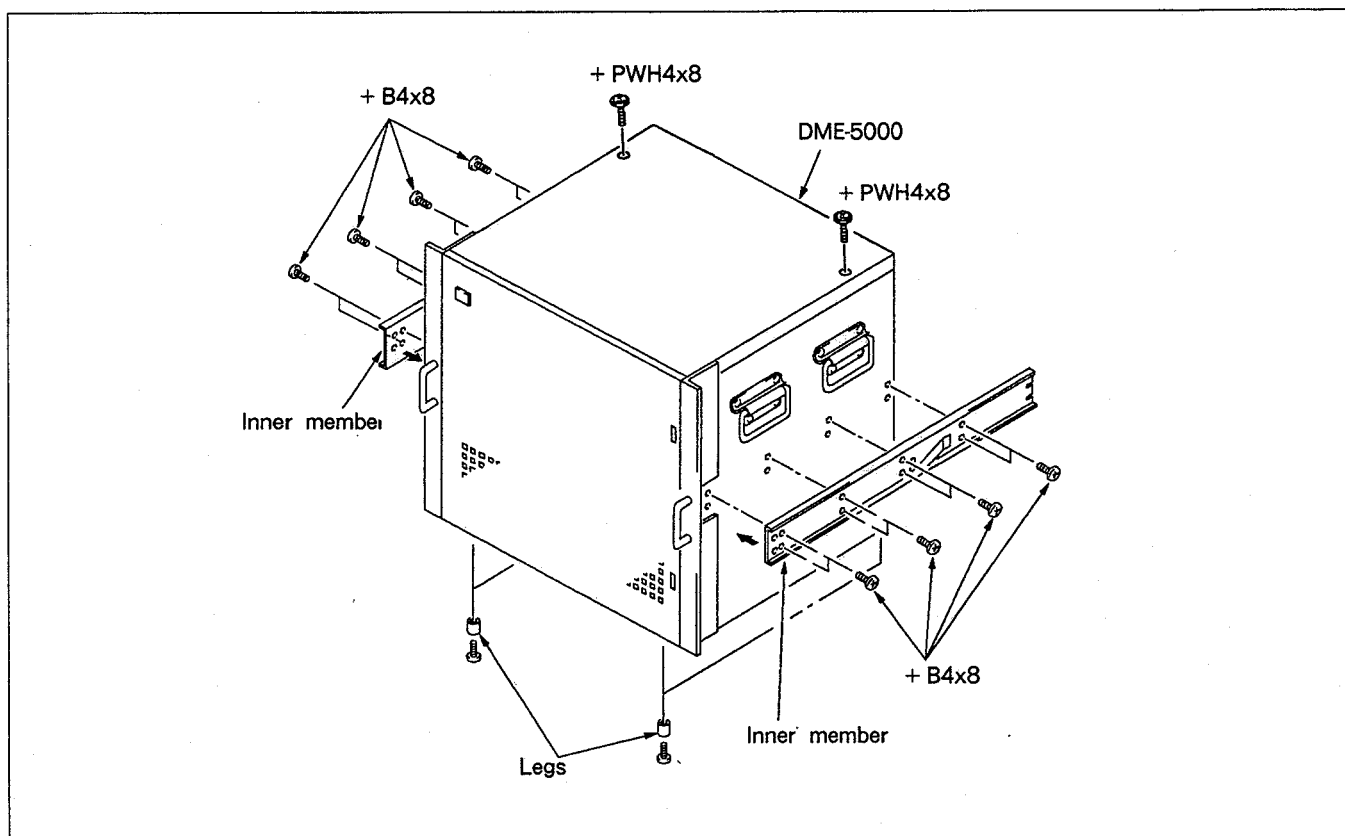


## < Installation method >

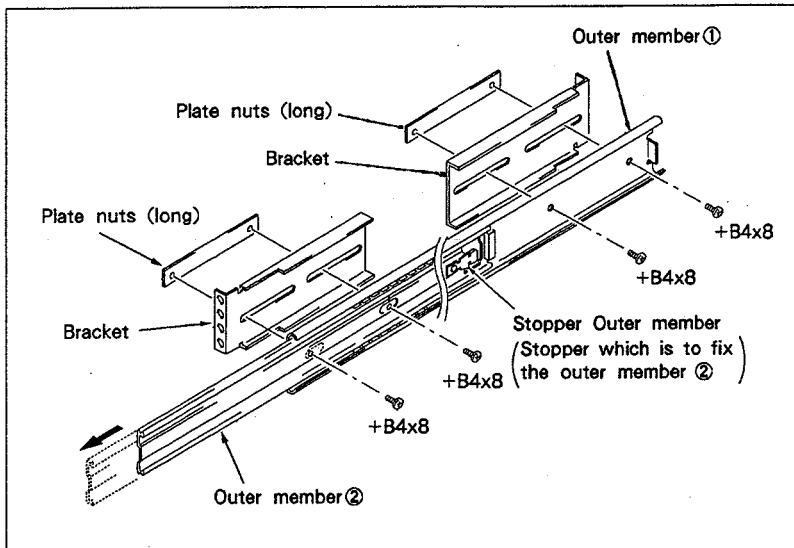
- (1) While pressing the stopper of the RMM-18DV rack mount rail, pull out the inner member.



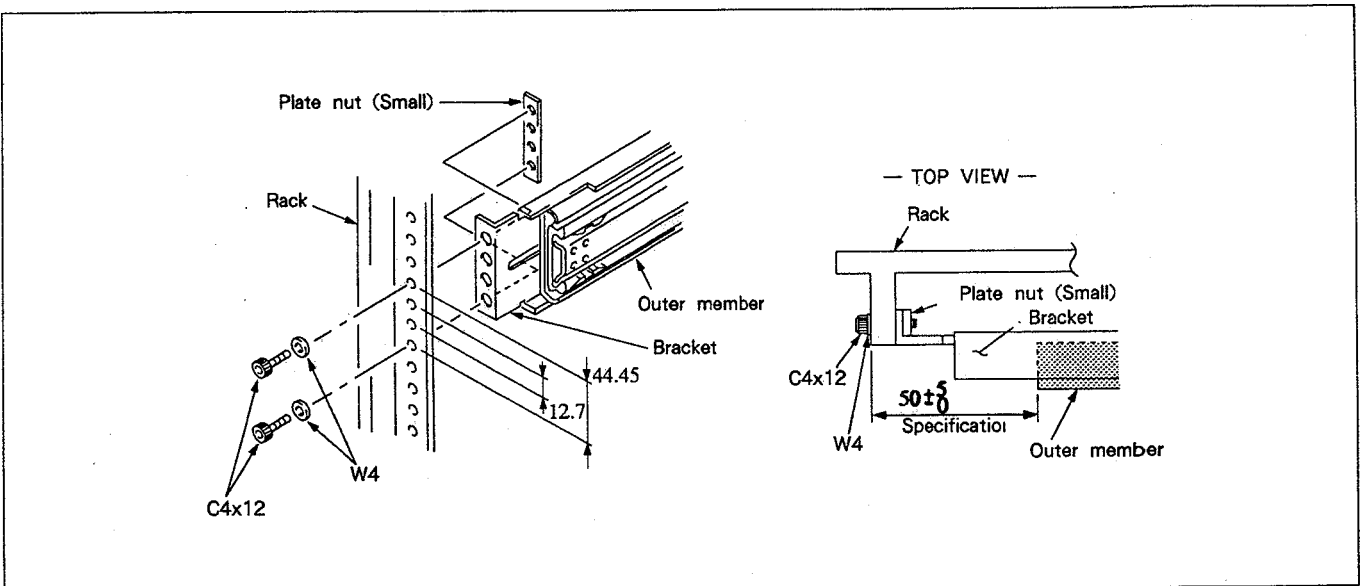
- (2) Use the 16 screws (+ B4x8) supplied with the RMM-18DV to attach the inner member to the unit. Remove the 2 screws (+ PWH4x8) on the top panel. Remove the legs of the unit as required.



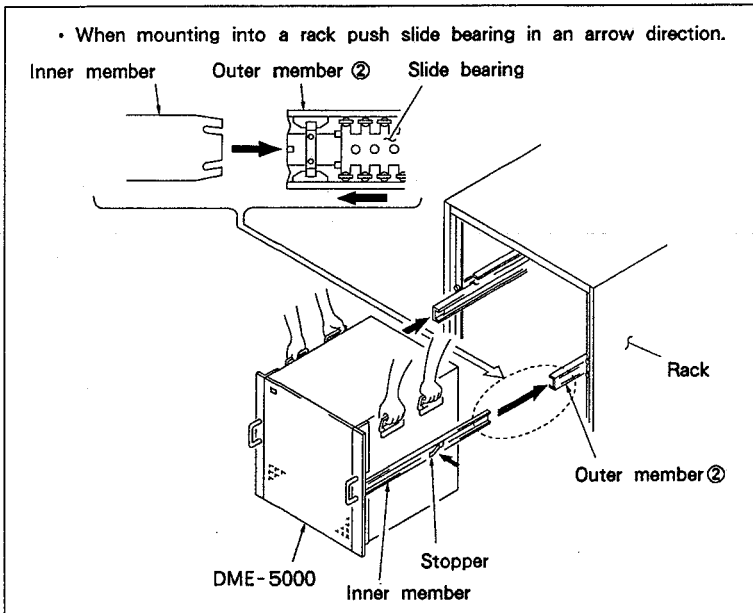
- (3) Use the 8 screws (+ B4x8) procured for mounting to fix the bracket lightly to the outer member ①. At this time, move the outer member ② forward and backward so the screw hole of outer member ① can be seen.



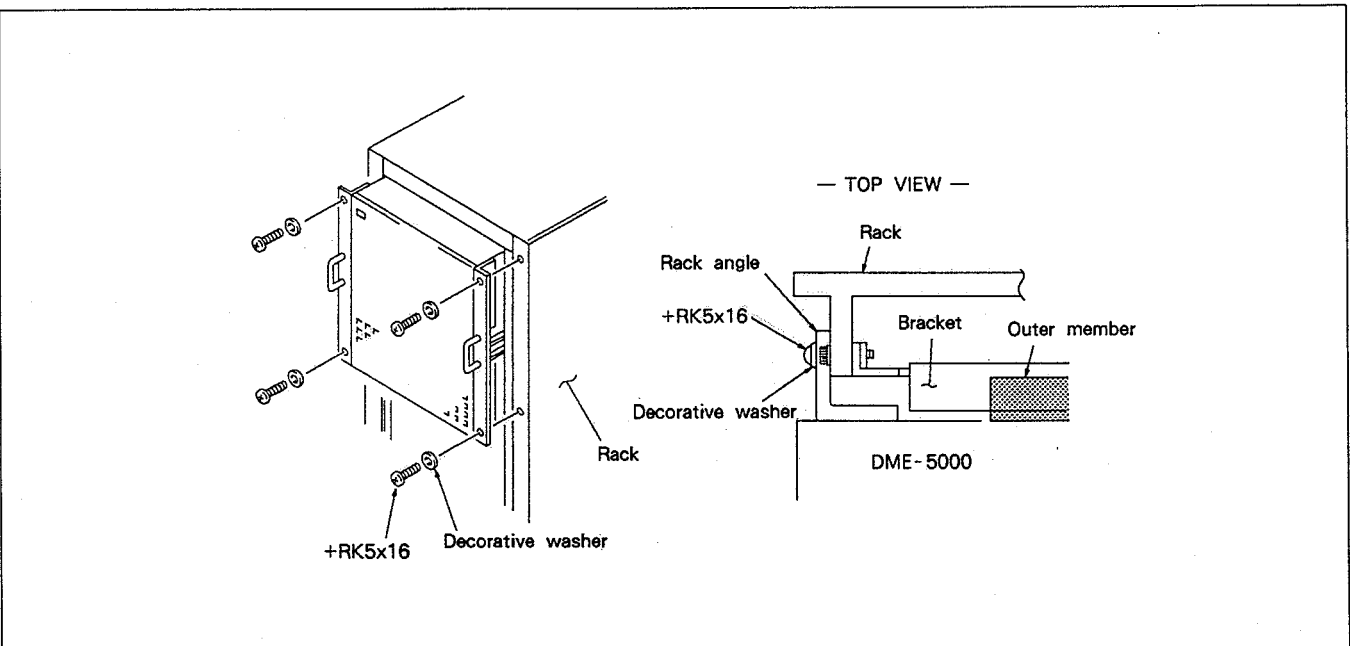
- (4) Use the 4 screws (C4x12) and washers (W4) supplied with the RMM-18DV to fix the outer member assembly lightly to the rack. At this time, adjust the installing position of the outer member. After adjustment, tighten the screws (+ B4x8) that were lightly fixed in step (3).



- (5) Before you place the unit in the rack, release the stopper of the inner member. After making sure the unit can be smoothly placed in the rack, tighten the screws (C4x12) that were lightly fixed in step (4).



- (6) After you placed the unit in the rack, use the 4 screws (+ RK5x16) and four decoration washers procured for mounting to fix the unit to the rack.



- 
- Technical drawing of a rack and pinion steering gear assembly. The drawing shows a side view of the assembly with the following dimensions and labels:
- Handle height:** 30
  - Maximum Shift:** 569
  - Height of set mounted on Rack:** 443
  - Length measured from edge to slide rail center:** 221.5
- Unit : mm

- EX-270 Extension Board (1)
- Power Cord (1)
- Power Cord Adapter (1)
- 75  $\Omega$  Terminator (1)
- Operation and Maintenance Manual (1)

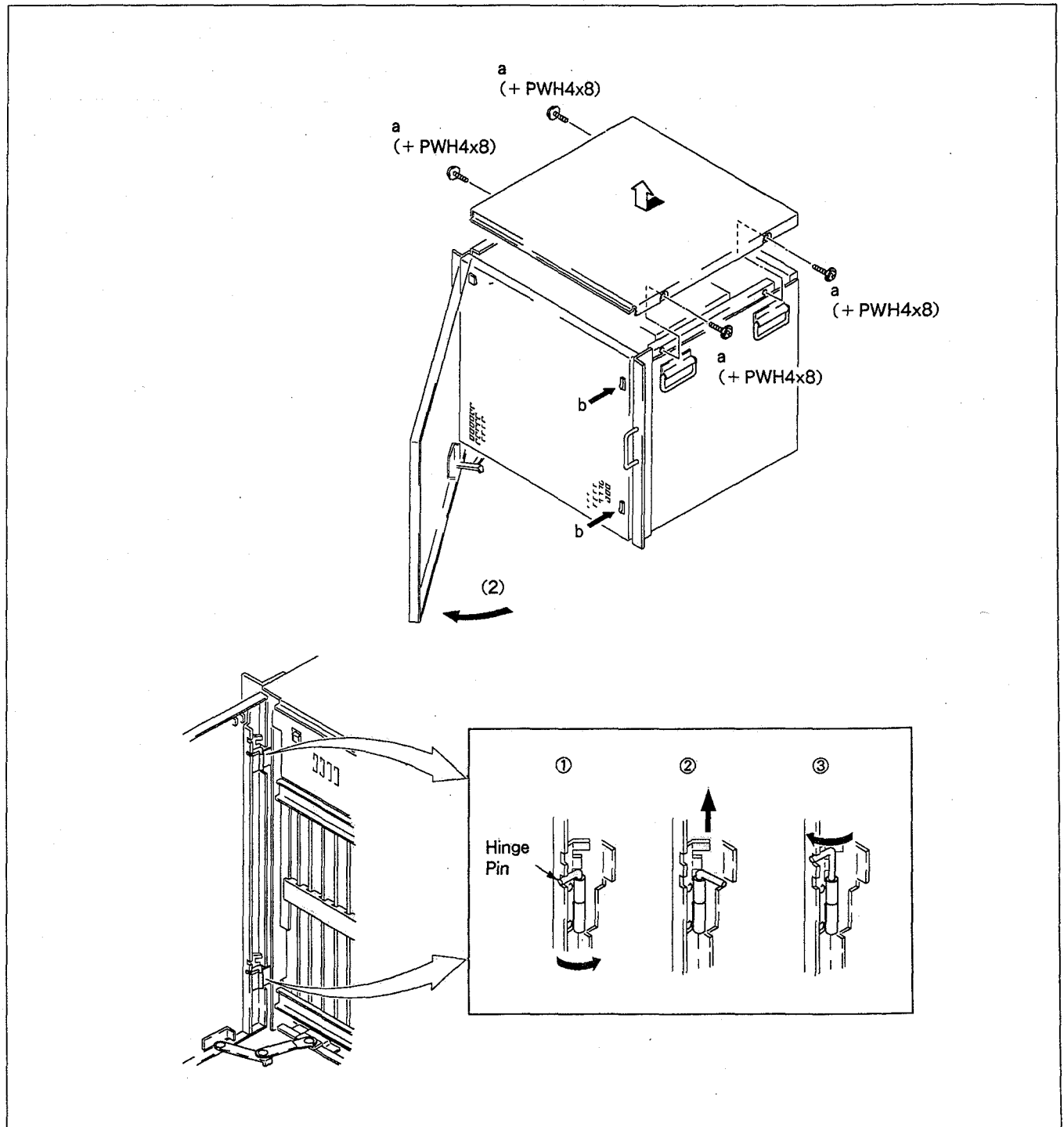
- BKDM-5010 : Composite Input/Output Board
- BKDM-5011 : Component Input/Output Board  
(to be available soon)
- BKDM-5012 : Digital Composite IN/OUT Board
- BKDM-5013 : Digital Input/Output Board  
(to be available soon)
- BKDM-5020 : Digital Combiner Board  
(to be available soon)
- BKDM-5021 : Digital Combiner Board  
(to be available soon)
- BKDM-5030 : Non-linear Effects Board  
(to be available soon)
- BKDM-5060 : Graphic Data Display Board  
(to be available soon)

## SECTION 3

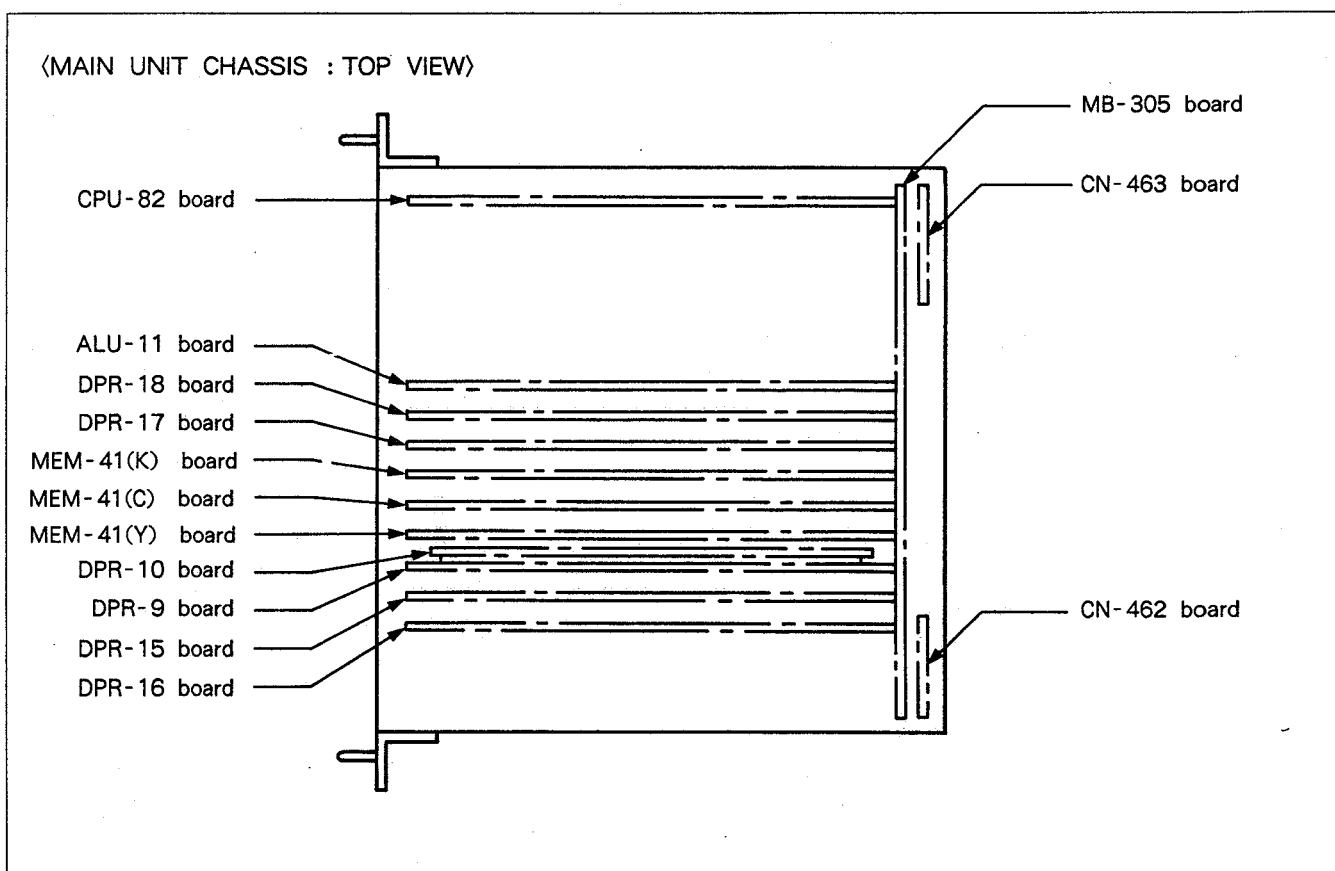
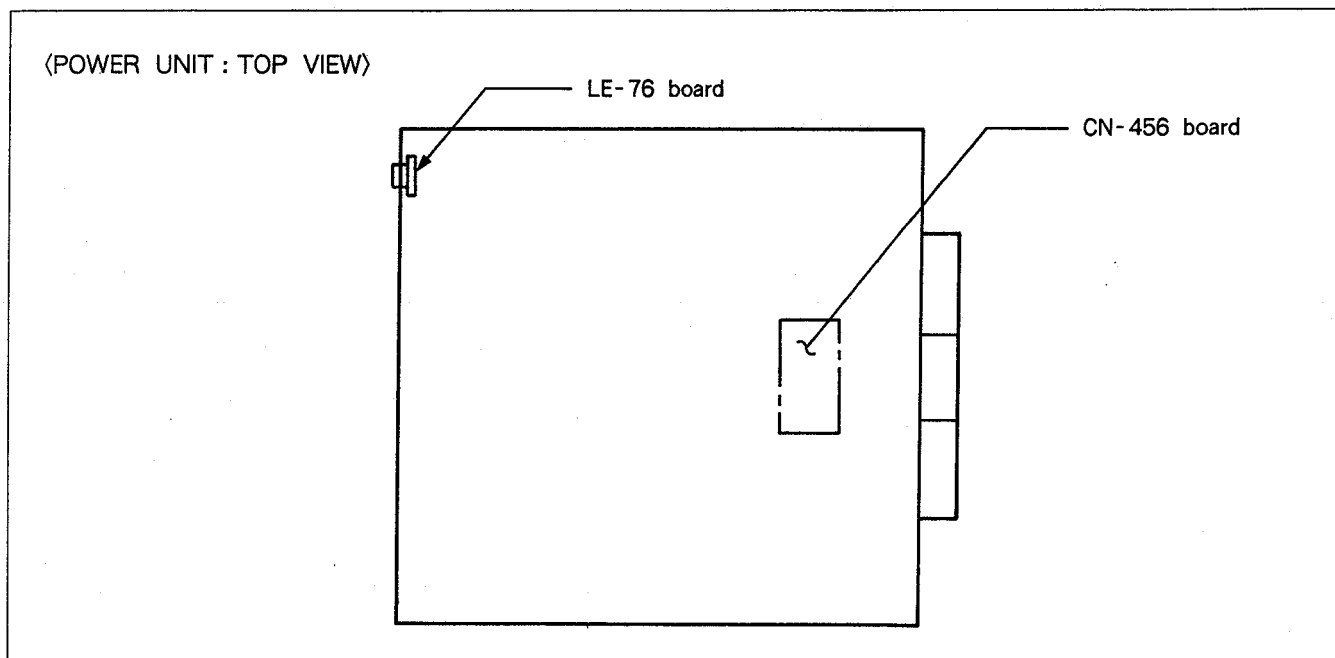
### SERVICE INFORMATION

#### 3-1. REMOVAL OF PANELS

- (1) Remove 4 screws of "a" (+PWH4x8), and remove the upper panel by pulling it out in your direction.
- (2) Release the lock of "b" and open the front panel.
- (3) Lift the hinge pin and to the upper groove as shown in inset figures ① to ③ to remove the front panel.



### 3-2. LOCATION OF PRINTED CIRCUIT BOARDS

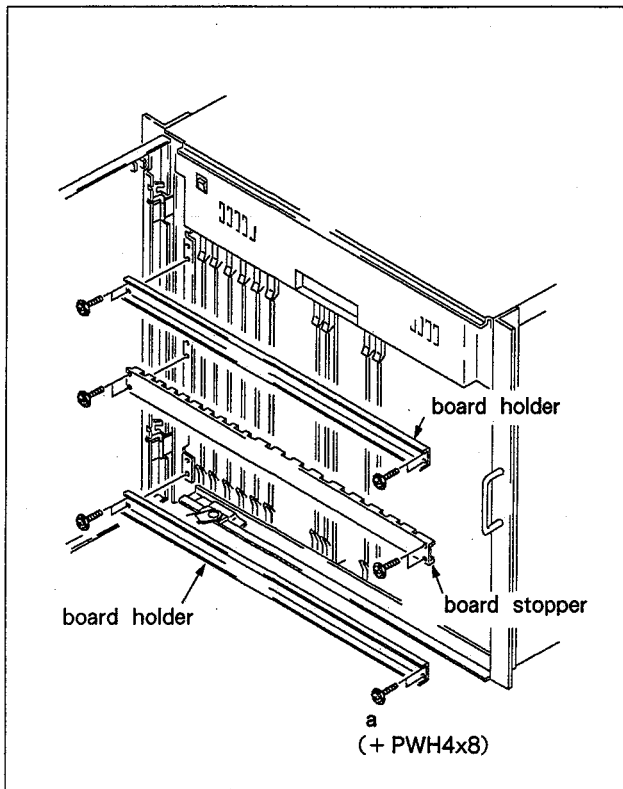


### 3-3. CIRCUIT INFORMATION

| Board    | Function   |
|----------|--|
| ALU - 11 | Real-time Numeric Data Processor                       |
| CN - 456 | Power Supply Connector Board                           |
| CN - 462 | BNC Connector Board                                    |
| CN - 463 | D SUB Connector Board                                  |
| CPU - 82 | System Control and Communications                      |
| DLP - 9  | Horizontal and Vertical Low Pass Filter                |
| DLP - 10 | IIR Vertical Low Pass Filter                           |
| DPR - 15 | Input Pixel Effect Generator and Motion Detect         |
| DPR - 16 | Output Recursive Effect Generator and Border Generator |
| DPR - 17 | Memory Address Selector and Write Address Generator    |
| DPR - 18 | Read Address Generator and Split Mirror Generator      |
| LE - 76  | Power LED Board  |
| MB - 305 | Mother Board   |
| MEM - 41 | 3 Field Video Memory and Interpolator                  |

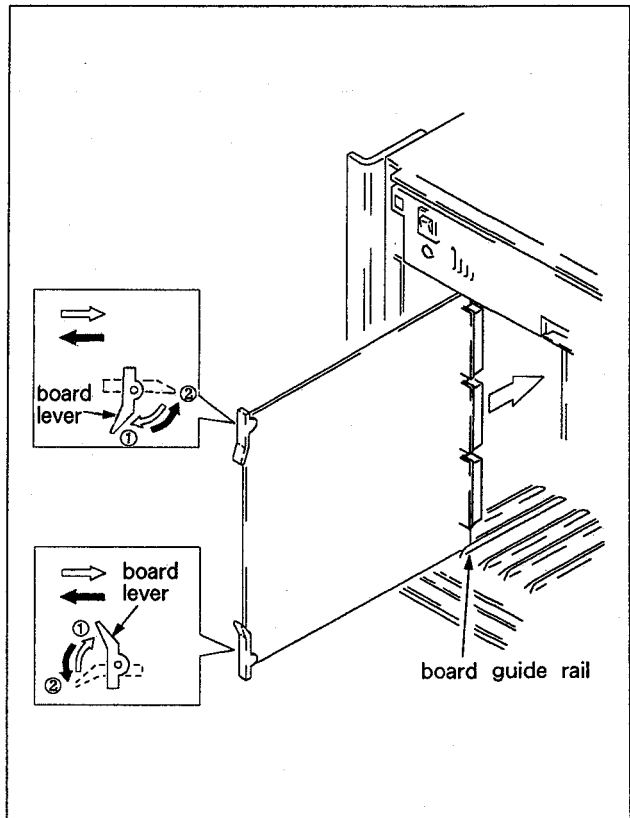
### 3-4. HOW TO INSTALL AND REMOVE THE BOARDS

- (1) Remove 12 screws of "a" (+ PWH4x8), board stopper, and board holder.



- (2) Insert the board in the slot along the board guide rail. To install the board, press the board lever in the direction of arrow ② while pushing the board inside.

- (3) To remove the board, pull the board lever in the direction of arrow ① and pull out the board in your direction.



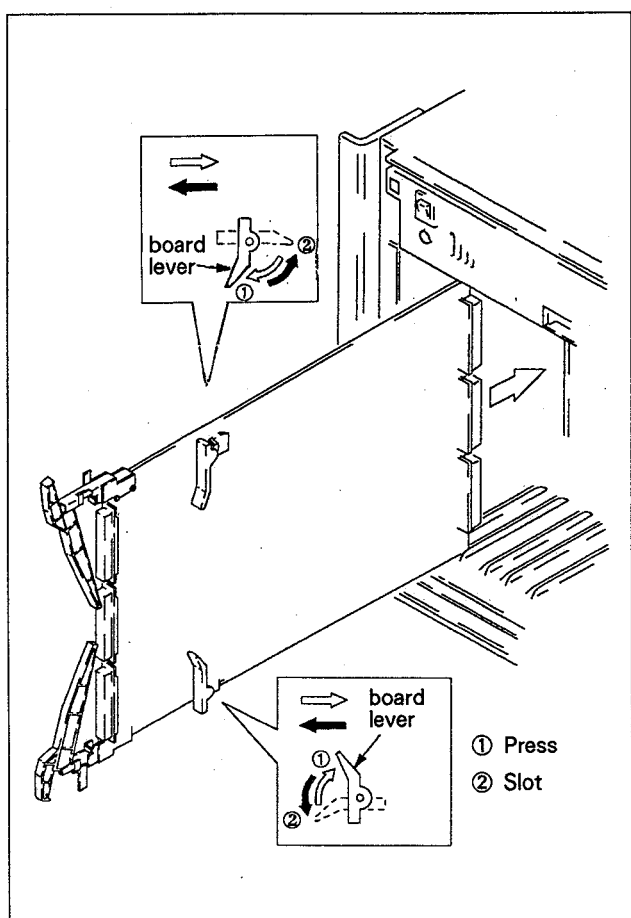
Note) After installing the board, check whether the connector is firmly connected to the MB-305 board.



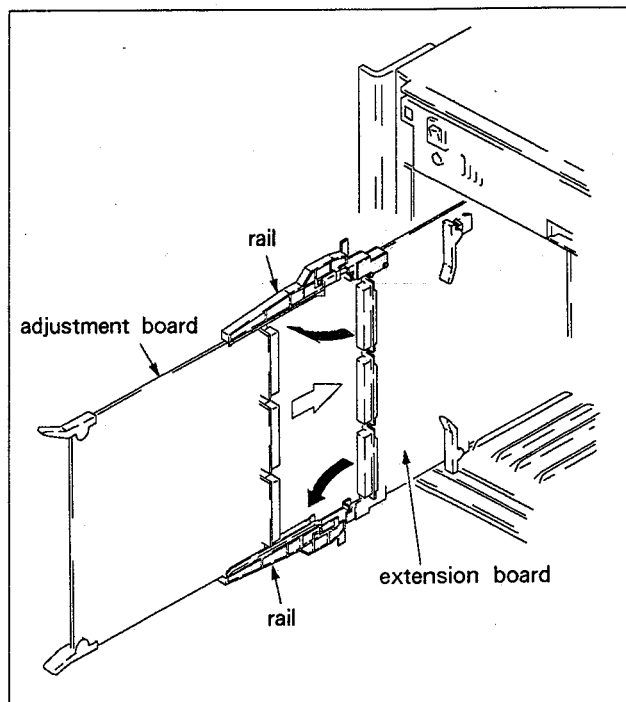
### 3-5. HOW TO USE THE EXTENSION BOARD

#### • EX-270 EXTENSION BOARD

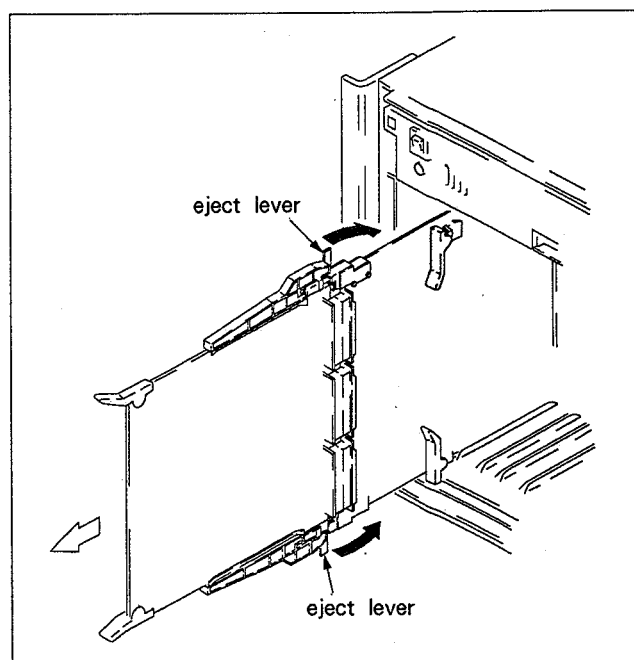
- (1) Pull out the board to be adjusted in the manner described in section 3-4. How to Install and Remove the Boards.
- (2) Insert the extension board into the slot and press the board lever to secure the board.



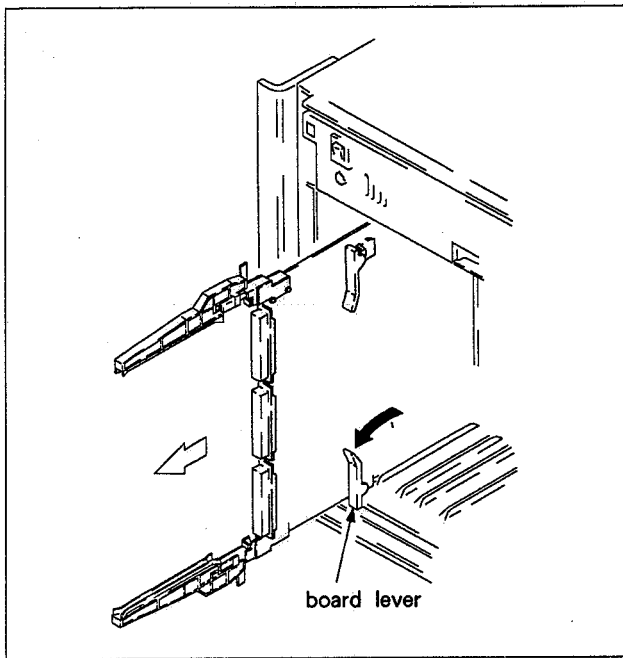
- (3) Open the rail of the extension board. (Open the rail completely until it locks.) Insert the board to be adjusted along the rail of the extension board and make the adjustment.



- (4) After adjustment, press the eject lever in the direction of arrow and pull out the adjustment board in your direction.



- (5) Push the board lever in the direction of arrow and remove the extension board by pulling it in your direction.



### 3-6. SERVICE PARTS

- (1) Safety Related on Components Warning  
Components with  $\triangle$  on the schematic diagrams, exploded views and electrical spare parts list are to maintain safe operation. Replace these components with Sony parts specified in this manual or in service manual supplements published by Sony.

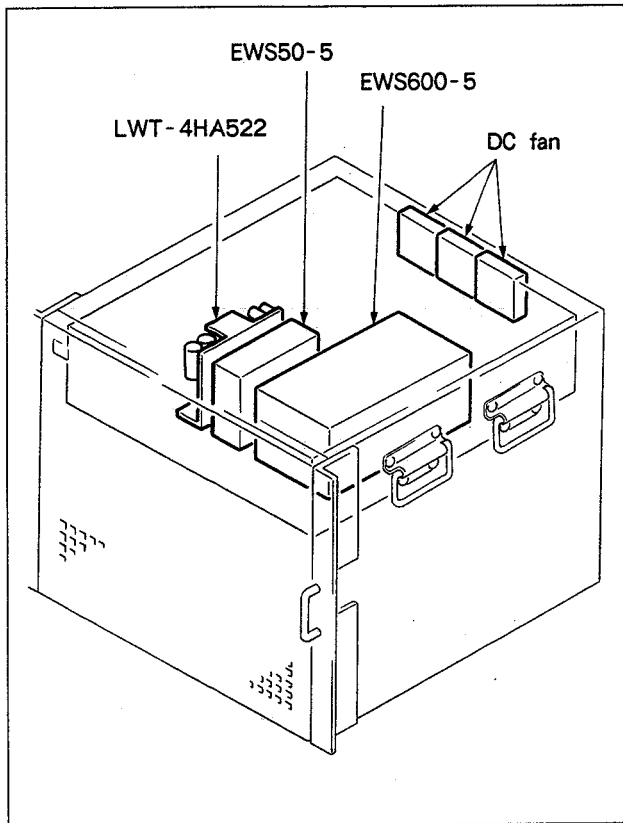
- (2) Standardization of Parts  
Replacement Parts supplied from Sony Parts Center may sometimes have different shape and outside view from the parts which are actually in use. This is due to "standardization of genuine parts". This manual's exploded view and electrical spare parts list are indicating the part numbers of "the standardized genuine parts at present".

- (3) Stocked of Parts  
The parts marked with "s" in the SP column of the exploded views and electrical spare parts lists are normally stocked for customer's inquiry. However, orders for parts, marked with "o" may not be ready which require additional delivery time when ordered.

## SECTION 4

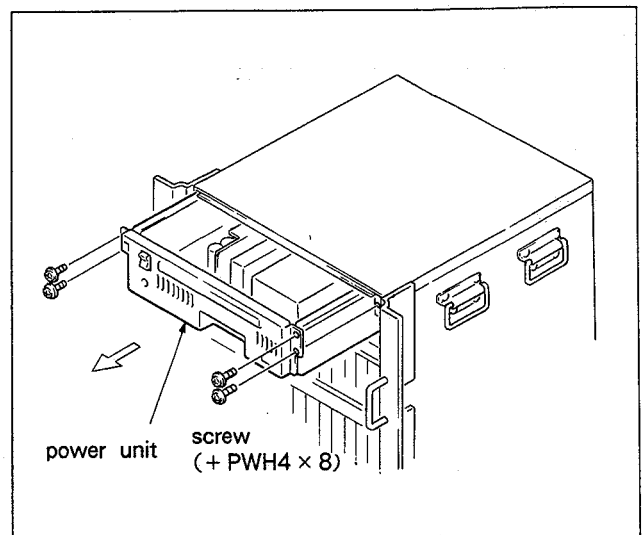
### REPLACEMENT OF MAIN PARTS

#### 4-1. LOCATION OF THE MAIN PARTS

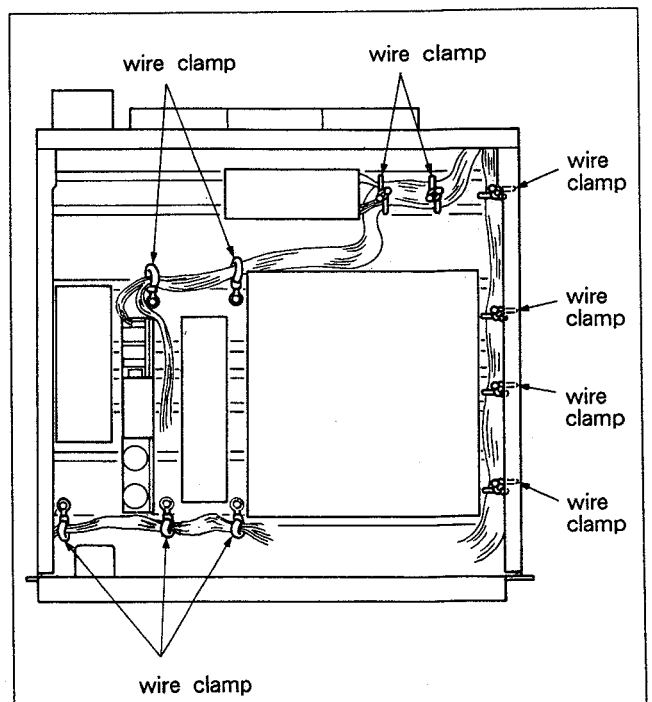


#### 4-2. REPLACEMENT OF THE SWITCHING REGULATORS

- (1) Remove the front panel in the manner described in section 3-1.
- (2) Remove 4 screws (+PWH4x8) and pull out the power unit in your direction.



- (3) Remove the harness from 11 wire clamps.



(4) Remove the screws that install the switching regulators.

① EWS600-5

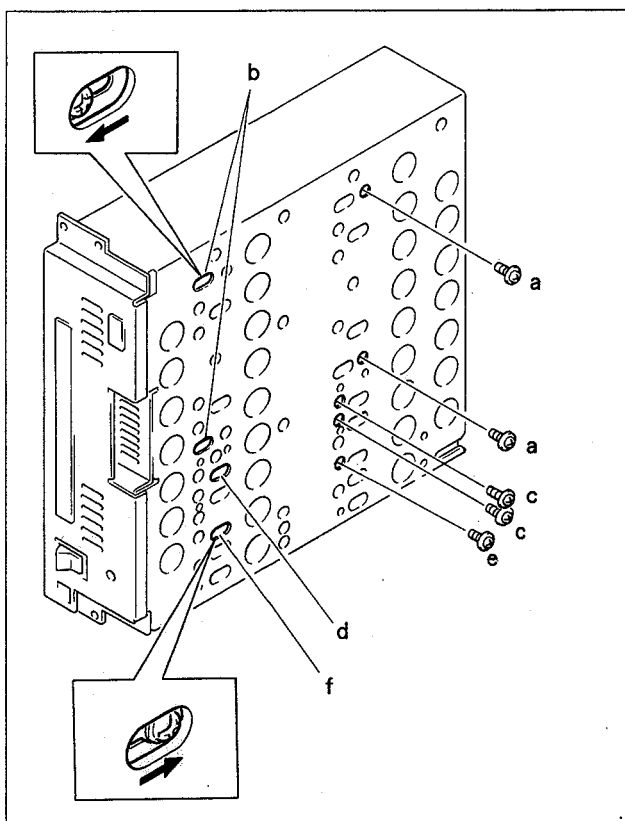
Remove 2 screws of "a" (+ PWH4x6) and loosen 2 screws of "b" (+ PWH4x6).

② EWS50-5

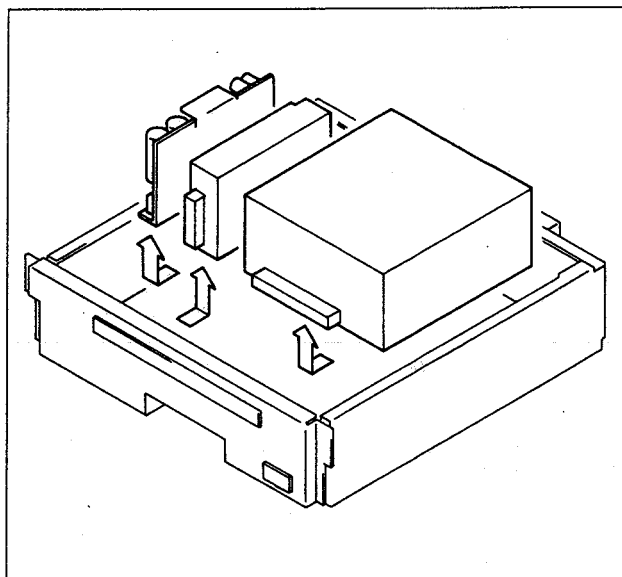
Remove 2 screws of "c" (+ PWH3x5) and loosen 1 screw of "d" (+ PWH3x5).

③ LWT-4H522

Remove 1 screw of "e" (+ PWH3x5) and loosen 1 screw of "f" (+ PWH3x5).



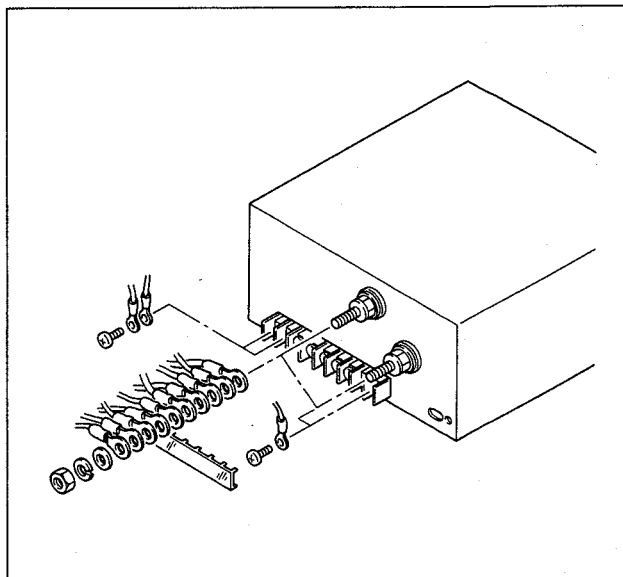
(5) Lift each switching regulator while pushing it in the direction of arrow as shown.



(6) Remove the harness and connectors.

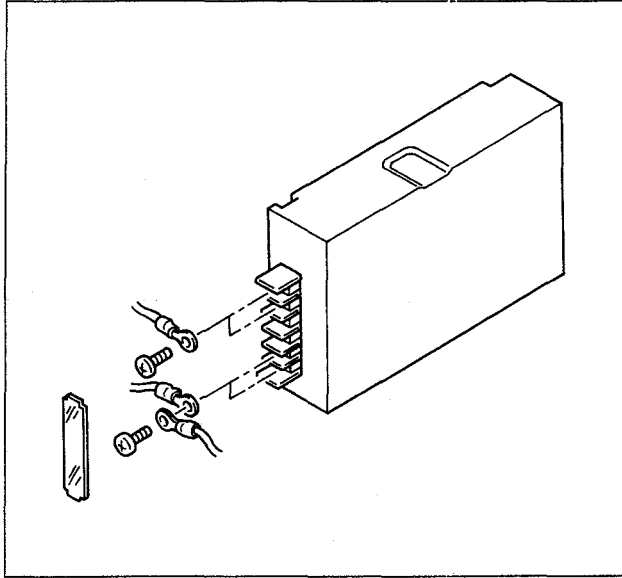
① EWS600-5

Loosen 2 nuts of the switching regulator and disconnect the harness. Remove also the terminal cover and 4 screws to disconnect the harness.



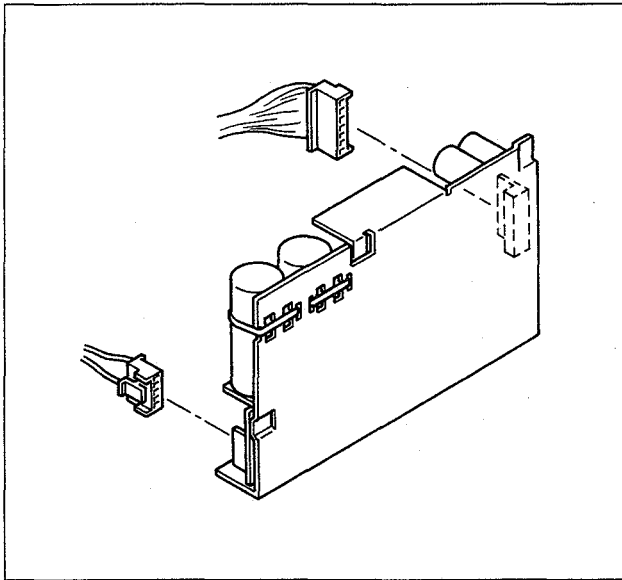
② EWS50-5

Remove the terminal cover and 4 screws of the switching regulator to disconnect the harness.



③ LWT-4H522

Disconnect 2 connectors of the switching regulator.



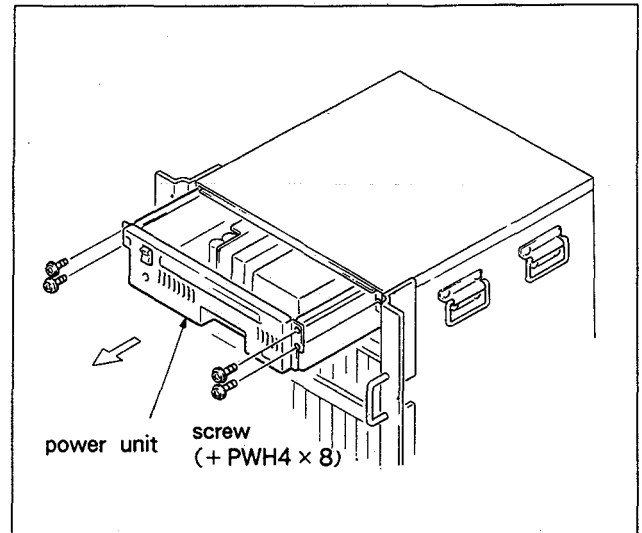
(7) Remove the switching regulator.

(8) Install the switching regulator in the reverse order of removal.

### 4-3. REPLACEMENT OF THE DC FAN

(1) Remove the front panel in the manner described in section 3-1.

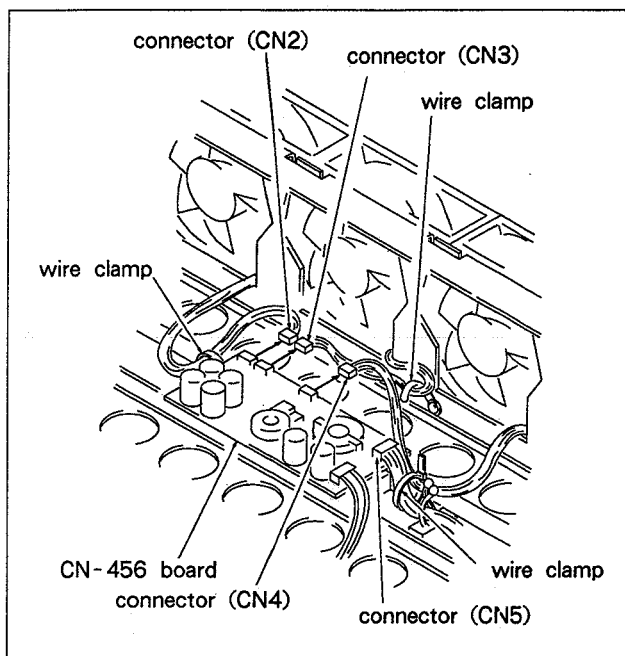
(2) Remove 4 screws (+PWH4x8) and pull out the power unit in your direction.



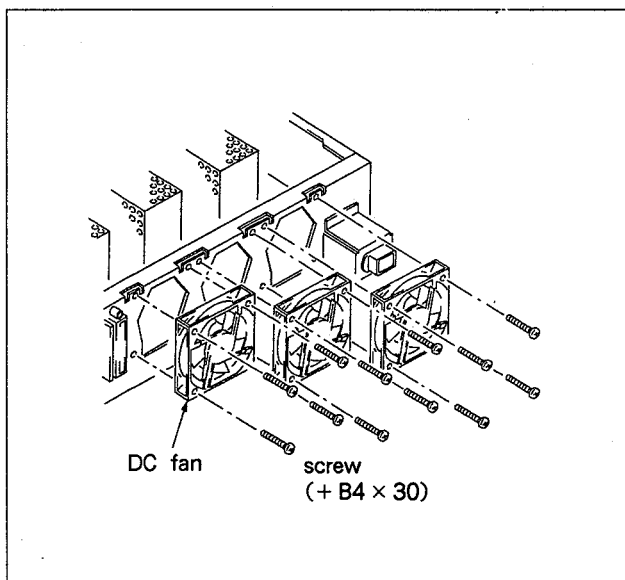
(3) Remove the harness from 2 wire clamps.

(4) Cut the wire clamps that fasten the connectors (CN4 and CN5).

- (5) Disconnect the connectors (CN2, CN3, and CN4) on the CN-456 board.



- (6) Remove 4 screws (+ B4x30) and remove the DC fan.



- (7) Perform steps (1) to (6) in reverse to install the new DC fan.

## SECTION 5

### TECHNICAL INFORMATION

#### 5-1. DEFECTIVE PARTS DIAGNOSTICS

- (1) Trouble in BORDER, EXTKEY, MOSAIC, LIGHTING, and motion detect

If you turn ON 1, 2, and 3 of S1 on the DPR-15 board when there is any trouble in BORDER, EXTKEY, MOSAIC, LIGHTING, or motion detect, the Y, C, and K boards will assume a through mode. If the trouble can be corrected under this condition, the DPR-15 board is defective.

- (2) Trouble in RECURSIVE effect, DROPSHADOW, MULTI FREEZE, and MONTAGE.

If you turn ON 1, 2, and 3 of S7 on the DPR-16 board when there is any trouble in RECURSIVE effect, DROPSHADOW, MULTI FREEZE, and MONTAGE effect, the Y, C, and K boards will assume a through mode. If the trouble can be corrected under this condition, the DPR-16 board is defective.

- (3) Trouble in MIRROR, SPLIT, and MULTI MOVE effect.

If you turn ON 1 of S8 on the DPR-18 board when there is any trouble in the shifting, enlargement/reduction, rotation, and non-linear shape effect of the image, the address at the read side will be passed. If the MIRROR, SPLIT, and MULTI MOVE effect trouble can be corrected under this condition, the DPR-18 board is defective.

- (4) Trouble in Y, C, or K board during shifting, enlargement/reduction, and rotation.

If you turn ON 1 of S4 on the MEM-41 board when there is any trouble in the Y, C, or K board during shifting, enlargement/reduction, or rotation, the memory will be passed. If the trouble can be corrected under this condition, one of the boards MEM-41 (Y), MEM-41 (C), or MEM-41 (K) is defective.

- (5) Trouble during reduction (when using the LOW PASS filter)

If you turn ON 1, 2, and 3 of S1 on the DLP-9 board when there is an image trouble during a particular reduction which uses the LOW PASS filter to cope with the reduction rate during reduction, the Y, C, and K boards will assume the through mode. If the trouble can be corrected under this condition, the DLP-9 board is defective.

- (6) Vertical/horizontal address error

When there is a vertical/horizontal address error, if the error cannot be corrected after turning ON 1 of S4 on the MEM-41 board (any one of the Y, C, or K board) and 1 of S8 on the DPR-18 board, the DPR-17 board is possibly defective.

- (7) Trouble in shifting, enlargement/reduction, and rotation

When there is a trouble during shifting, enlargement/reduction, or rotation, if the trouble is corrected by turning ON S8 on DPR-18 board, the ALU-11 board is possibly defective.

- (8) Power supply trouble

- Trouble in the fan and POWER lamp indicates a defective +5V system of LWT-4HA522 (switching power of the multi-output).
- If the LEDs (D1 to D8) on the CPU-82 board do not light at all, the EWS600-5 power (+5V) supply is possibly defective.
- Pull out the power supply unit and make sure that the power LED on the EWS600-5 power supply is illuminating.
- If there is no analog output (sync/burst) when the analog video output power is tested using an oscilloscope, the  $\pm 12V$  supply is defective.
- When only in the digital serial is unfunctional, the -5V system of the EWS50-5 power supply is possibly defective.
- Pull out the power supply unit and make sure that the power LED on the EWS50-5 power supply is illuminating.

## 5-2. SELF-DIAGNOSTICS

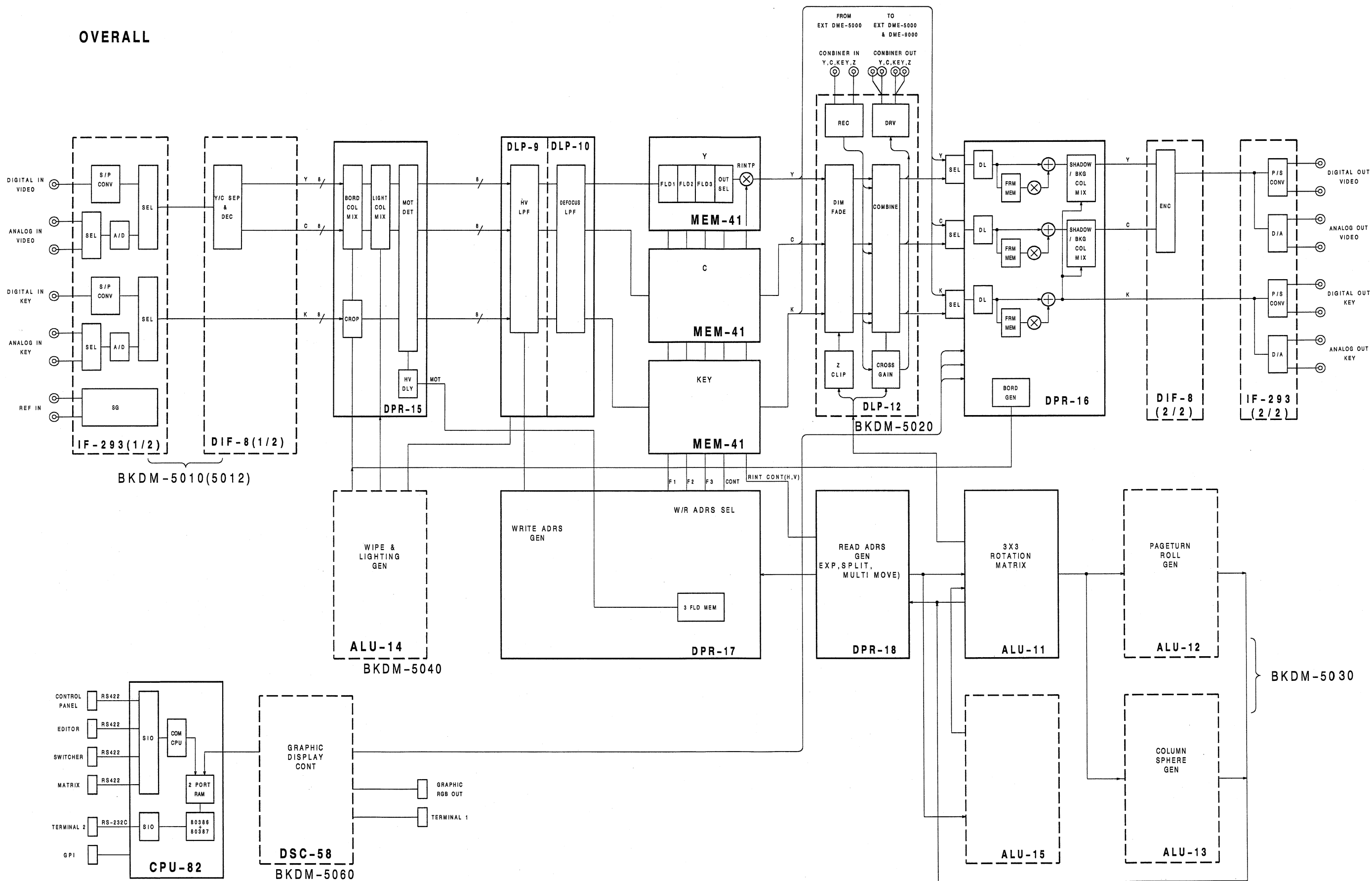
The CPU-82 board self-diagnostics can be performed using the SET UP menu of the control panel. See the Operation Manual of the control panel for details.



**SECTION 6**  
**BLOCK DIAGRAM**

# OVERALL OVERALL

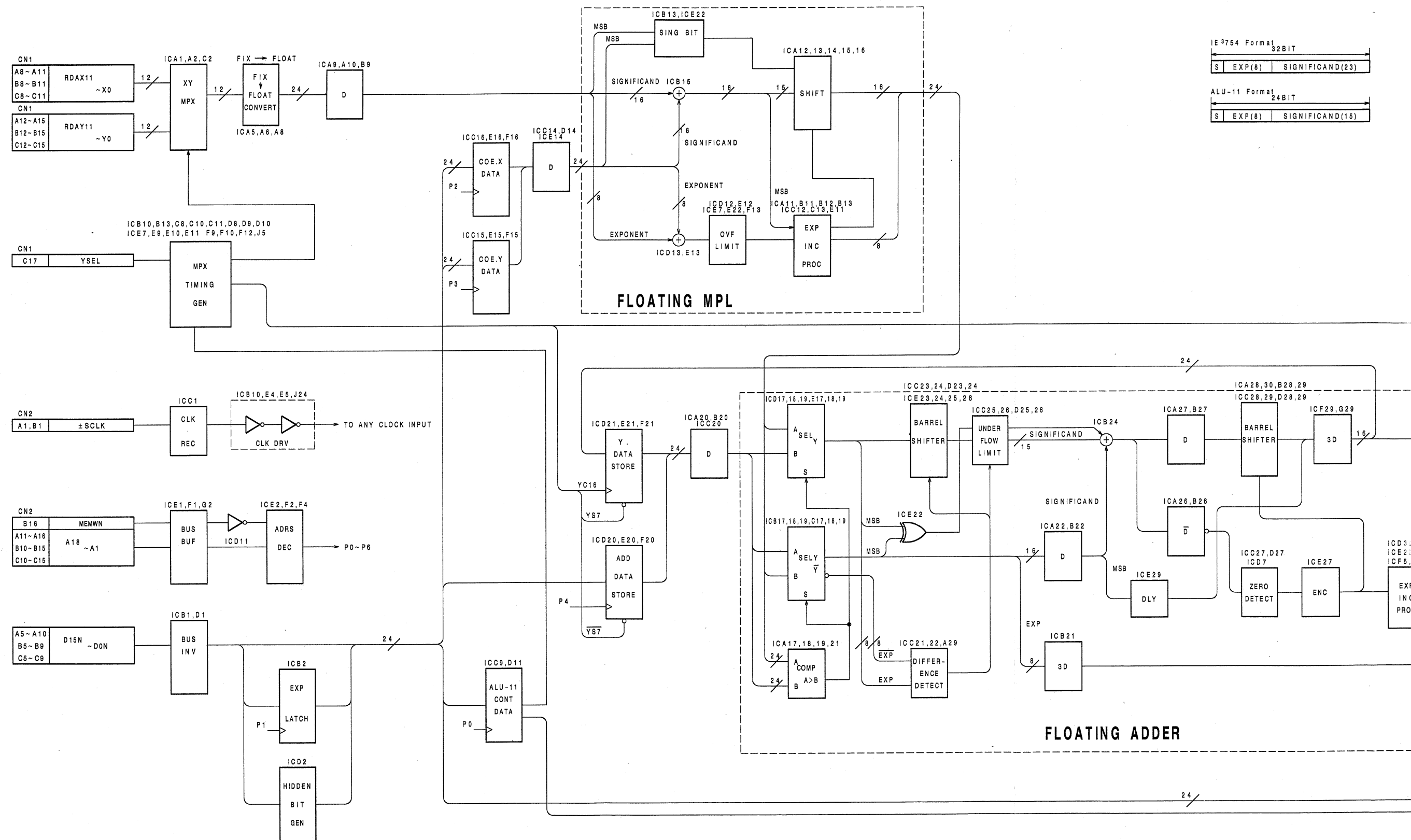
## OVERALL



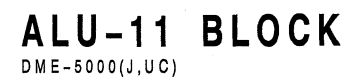
## OVERALL BLOCK

DME-5000(J,UC)

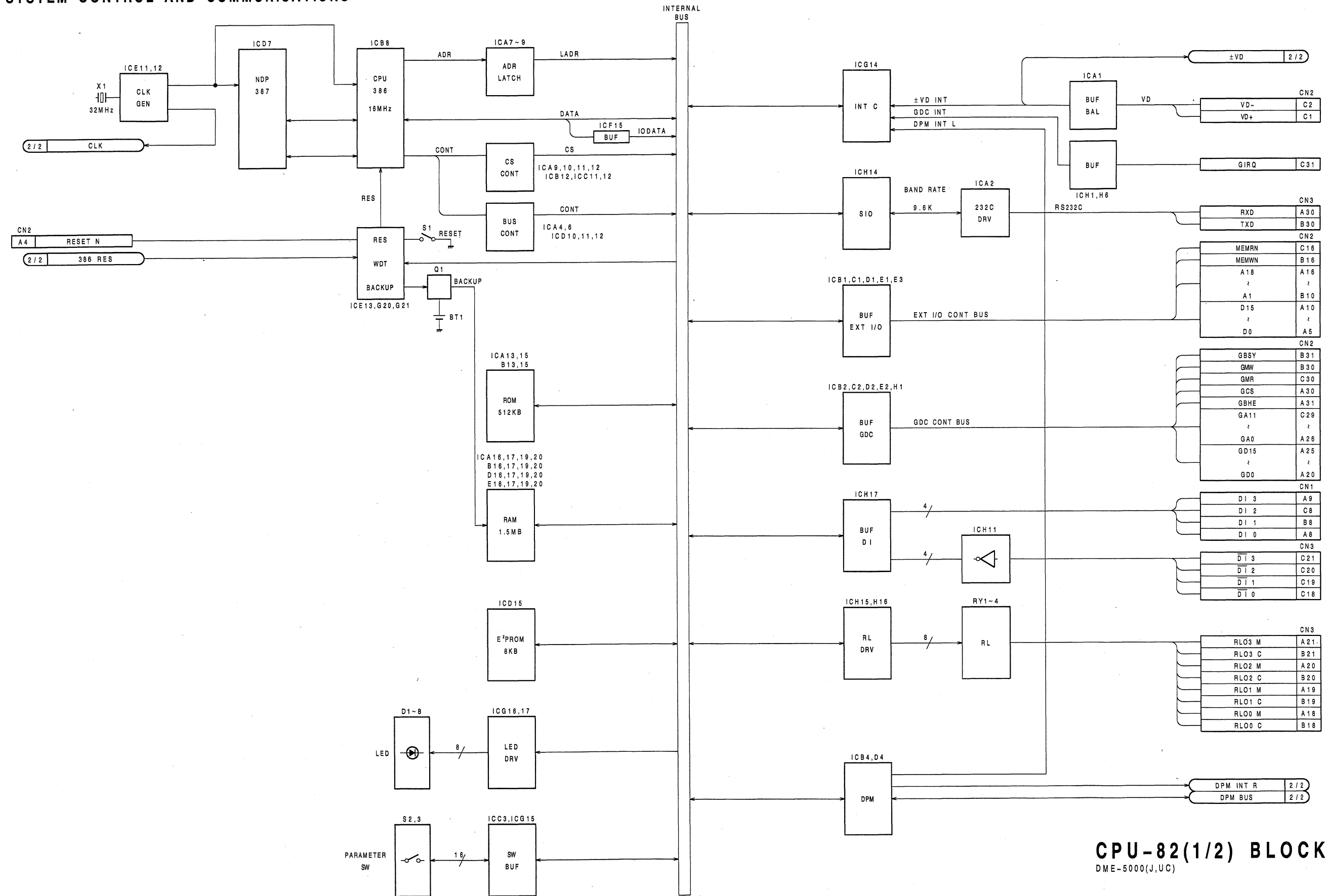
# REAL TIME NUMERIC DATA PROCESSOR



ALU-11      ALU-11



# SYSTEM CONTROL AND COMMUNICATIONS



**CPU-82(1/2) BLOCK**  
DME-5000(J,UC)

6-11

J

K

L

M

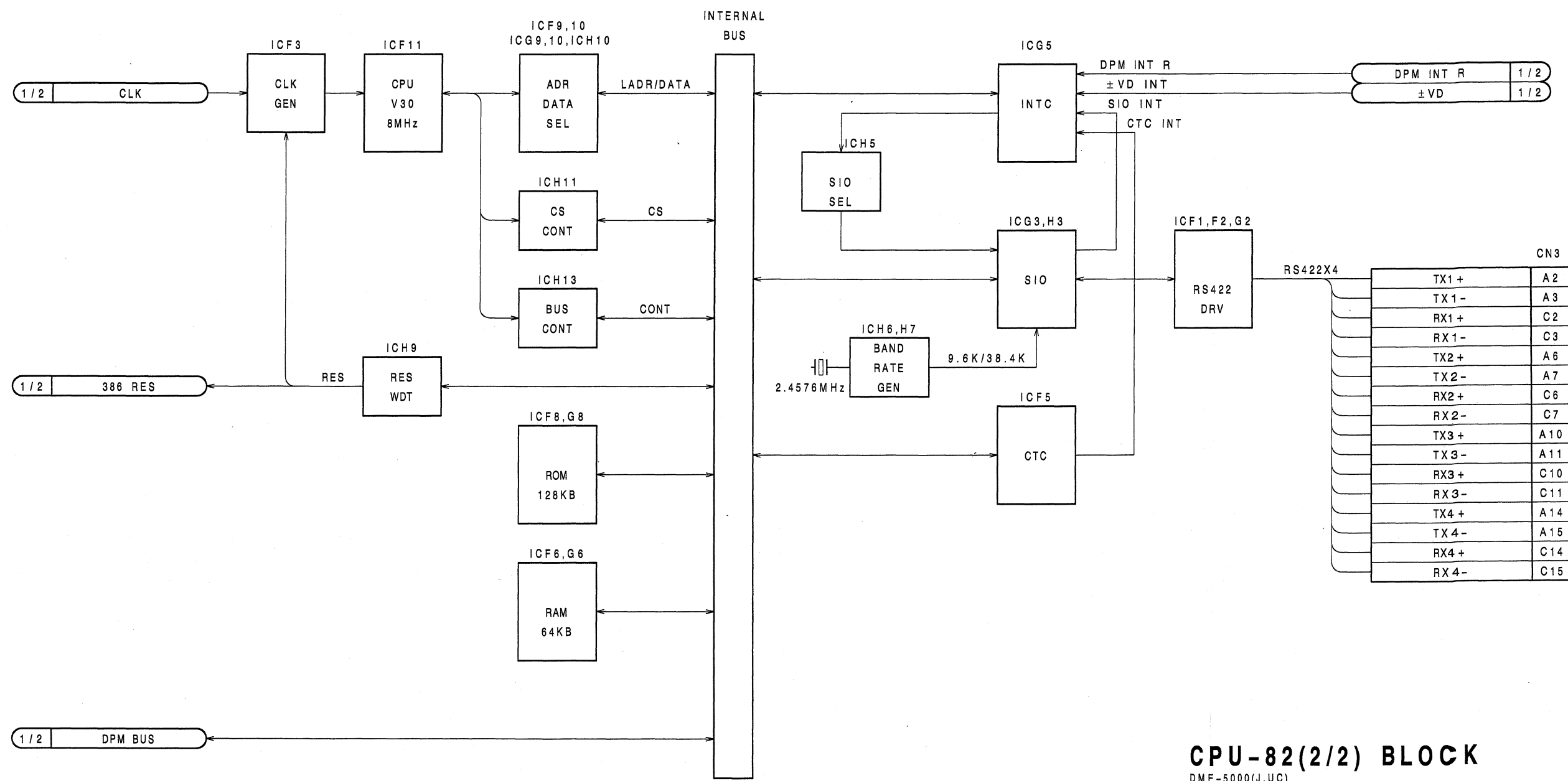
N

6-12

O

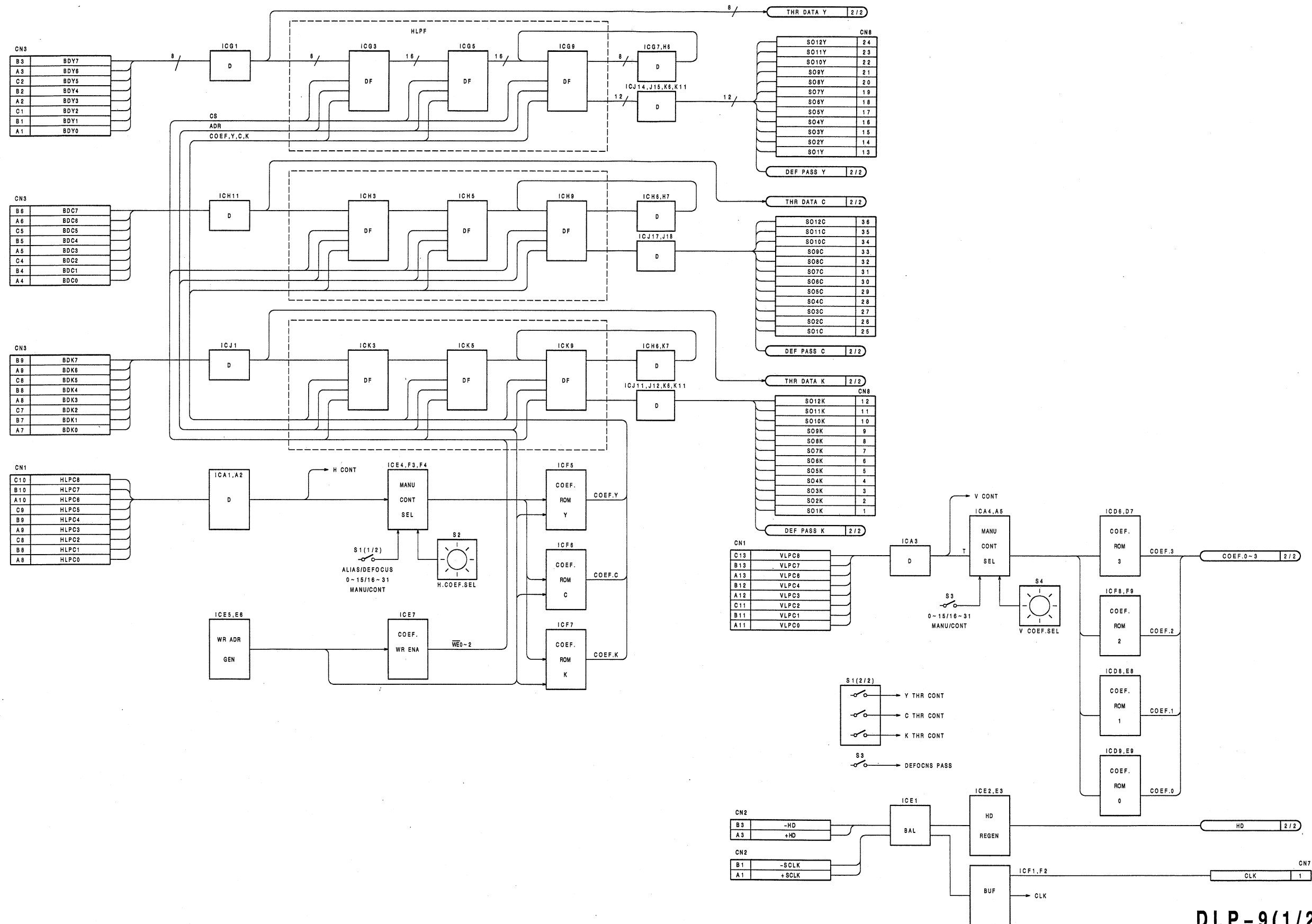
P

SYSTEM CONTROL AND COMMUNICATIONS



**CPU-82(2/2) BLOCK**  
DME-5000(J,UC)

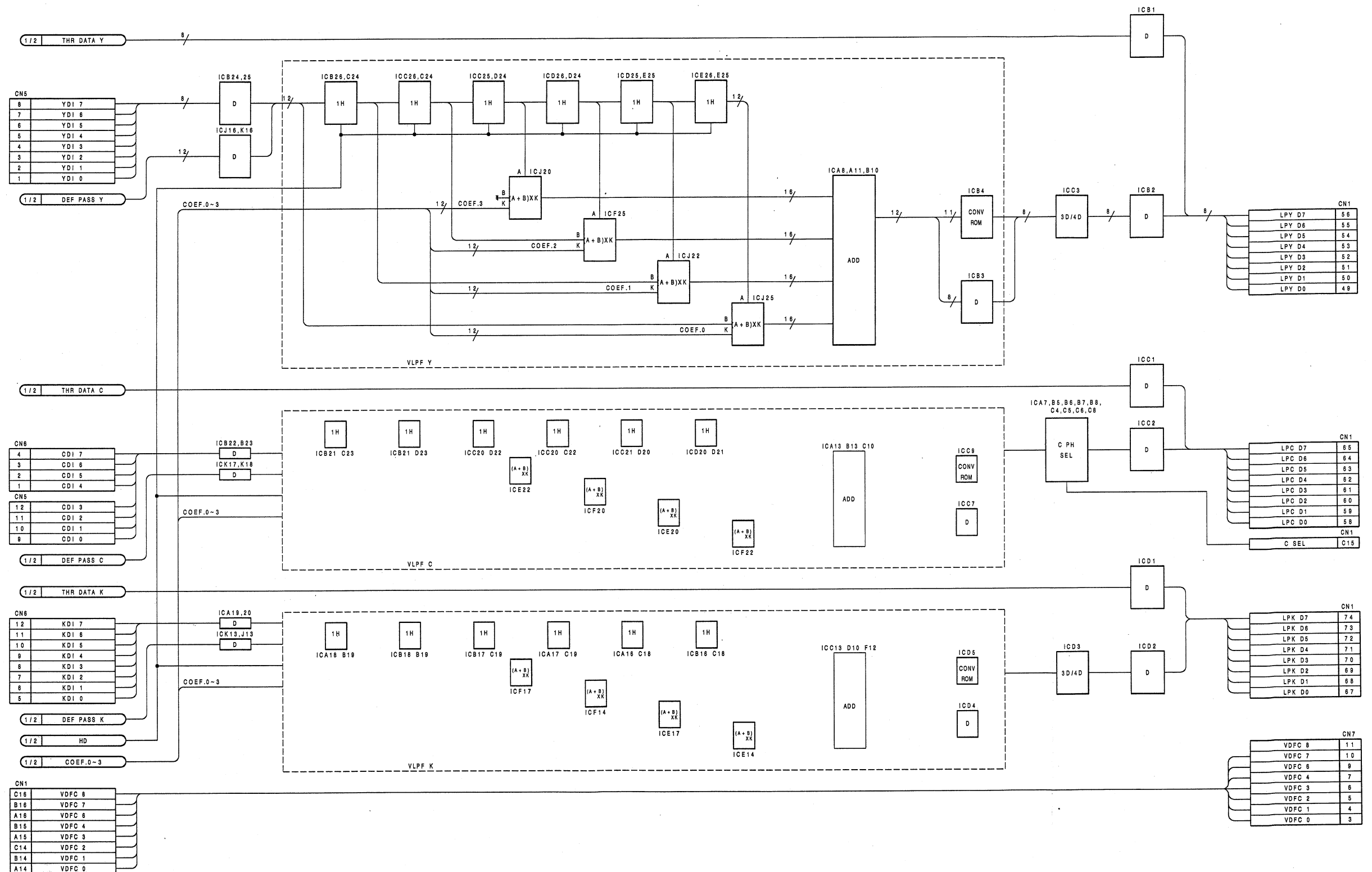
HORIZONTAL AND VERTICAL LOW PASS FILTER



DLP-9(1/2) BLOCK  
DME-5000(J,UC)

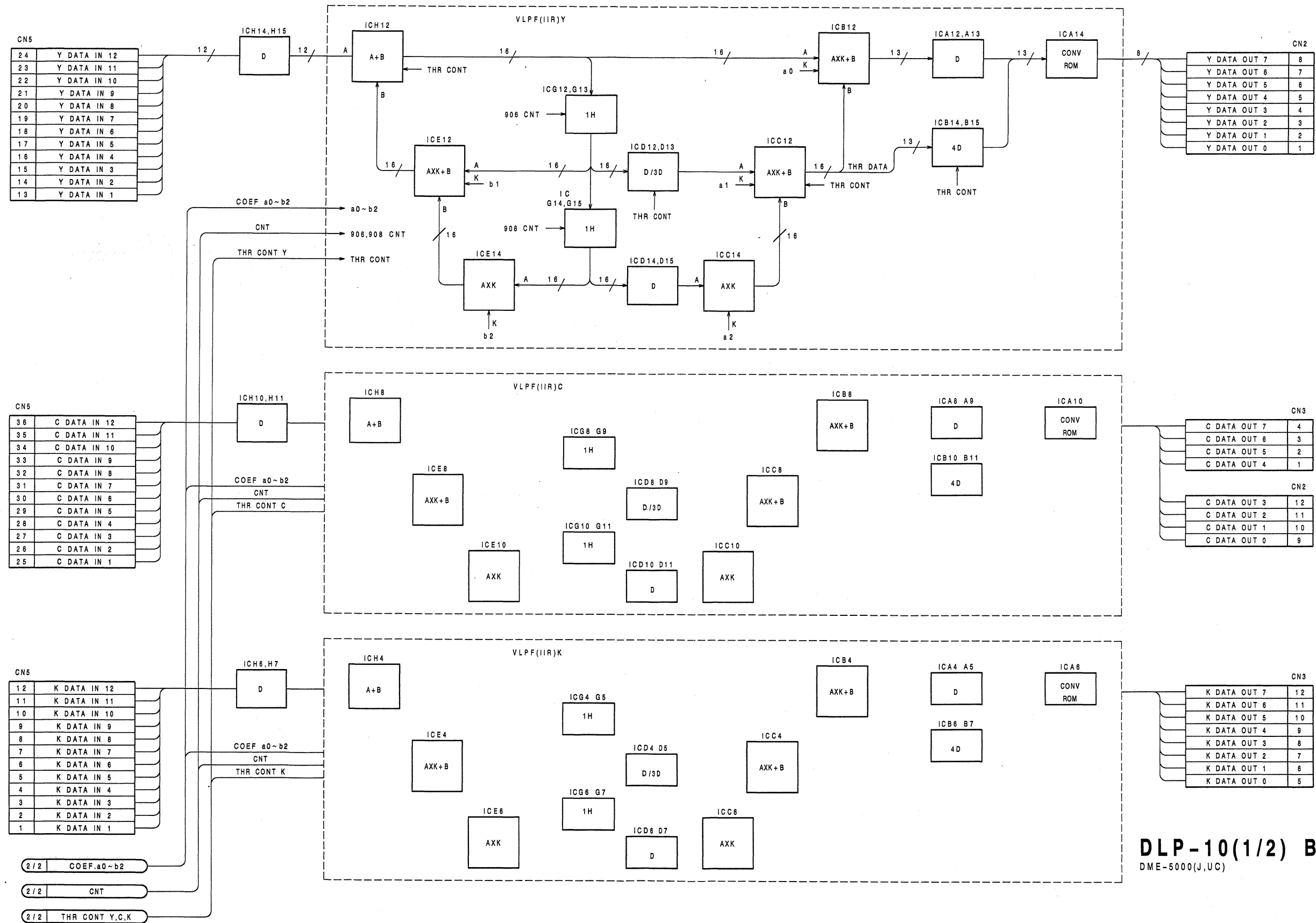


HORIZONTAL AND VERTICAL LOW PASS FILTER



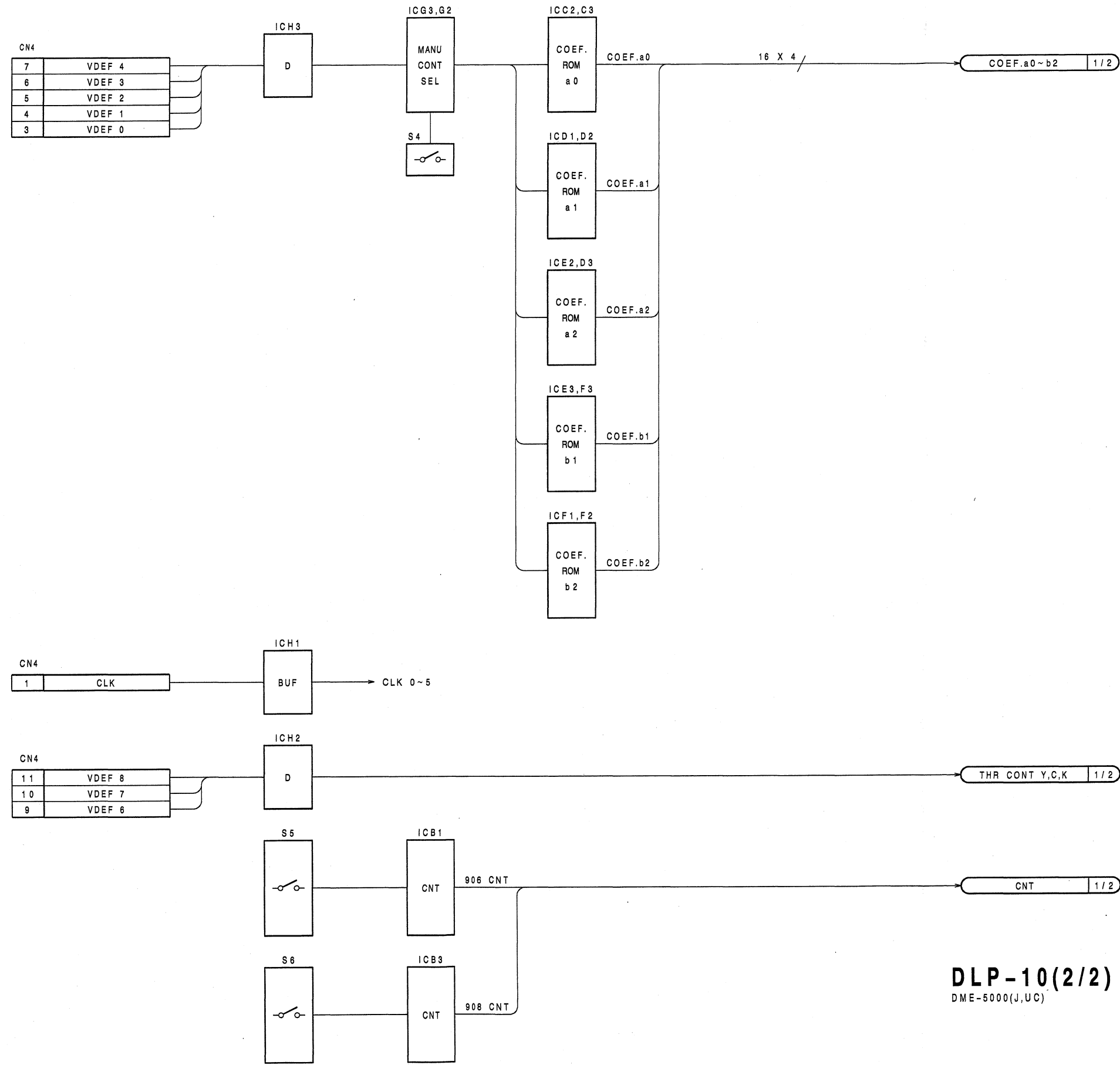
DLP-9(2/2) BLOCK  
DME-5000(J,UC)

IIR VERTICAL LOW PASS FILTER



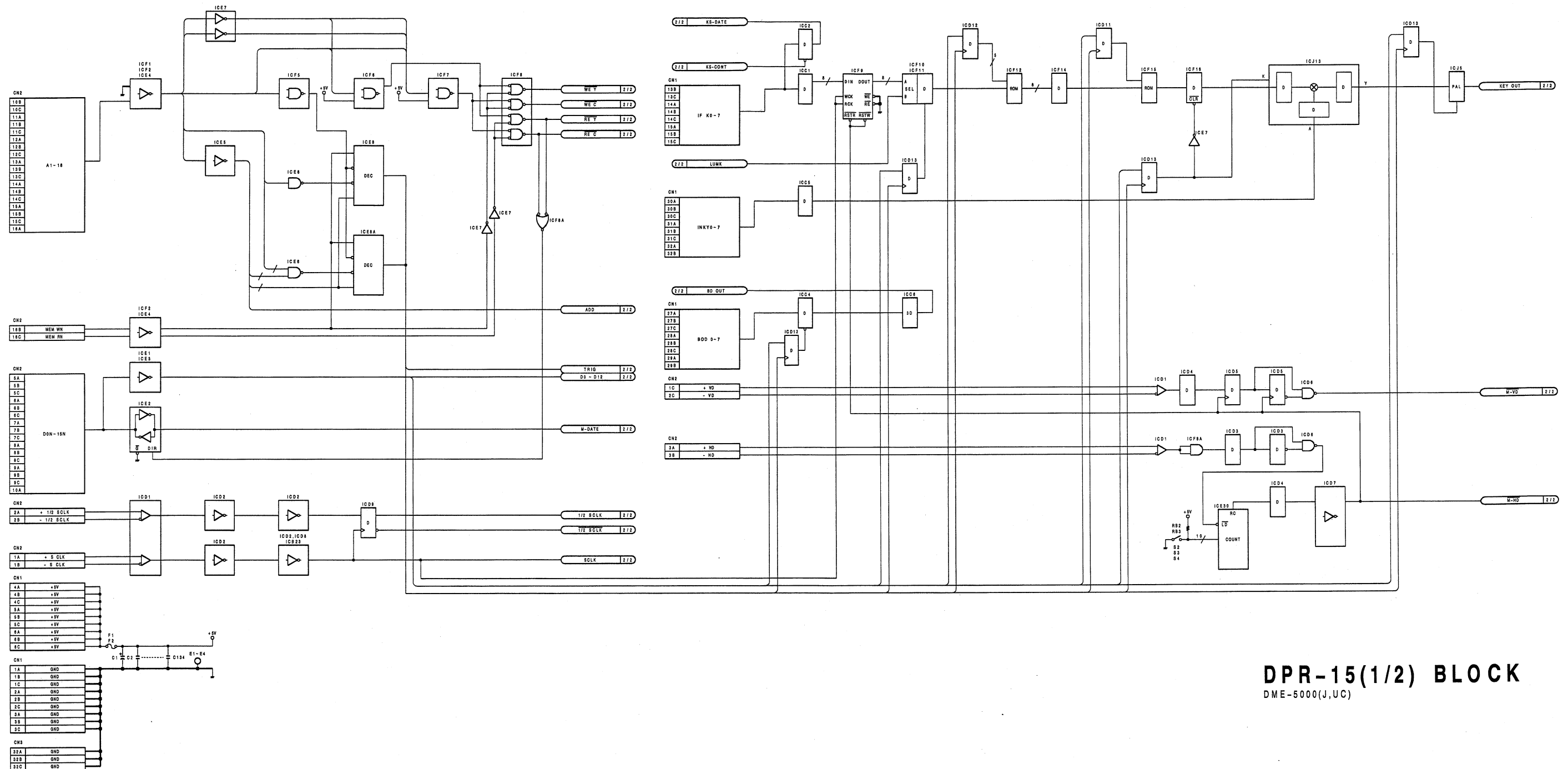
DLP-10(1/2) BLOCK  
DME-5000(J,UC)

IIR VERTICAL LOW PASS FILTER



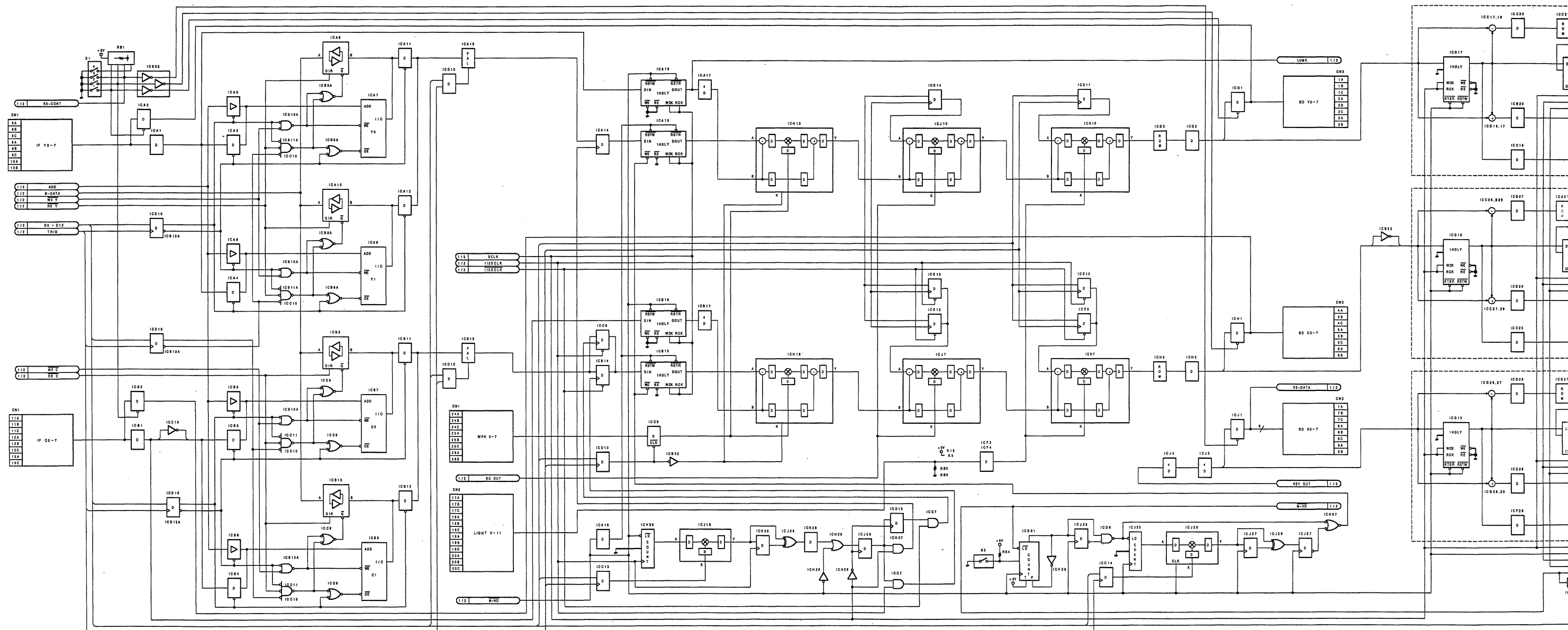
DLP-10(2/2) BLOCK  
DME-5000(J,UC)

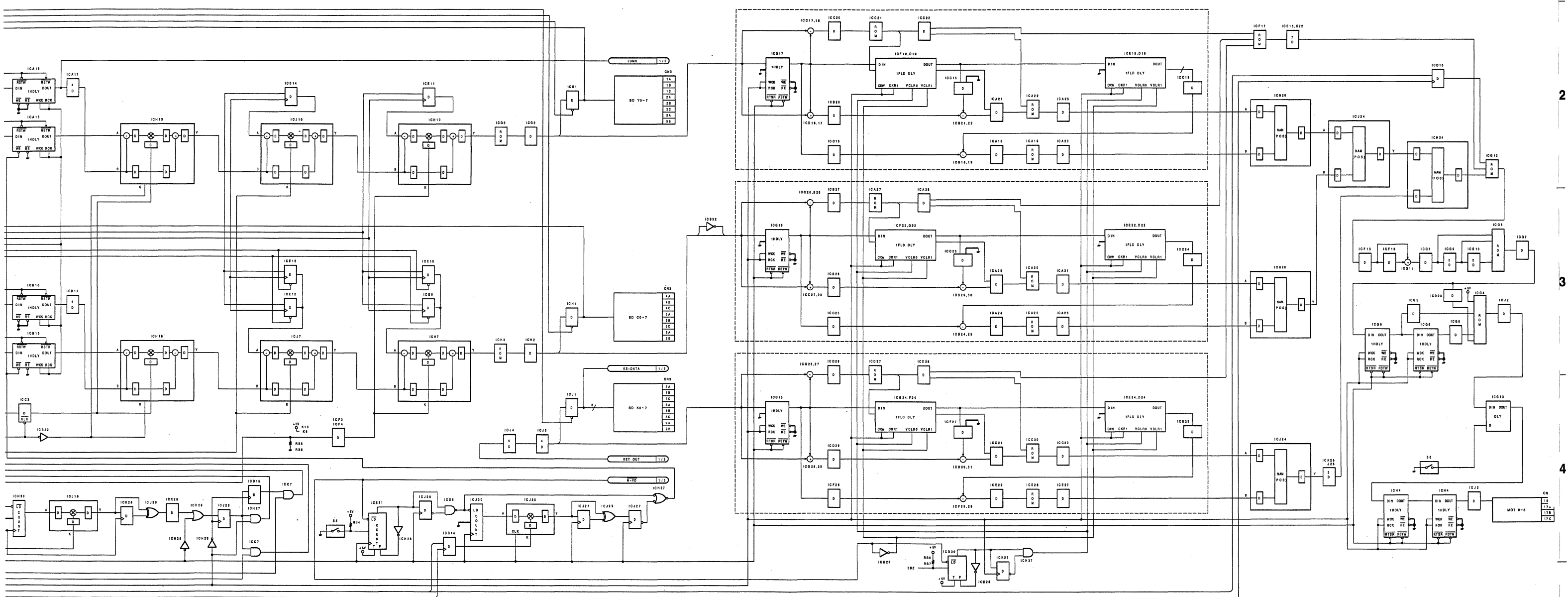
INPUT PIXEL EFFECT GENERATOR AND MONITOR DETECT



DPR-15(1/2) BLOCK  
DME-5000(J,UC)

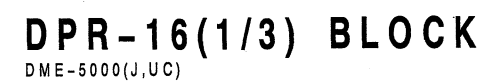
INPUT PIXEL EFFECT GENERATOR AND MONITOR DETECT





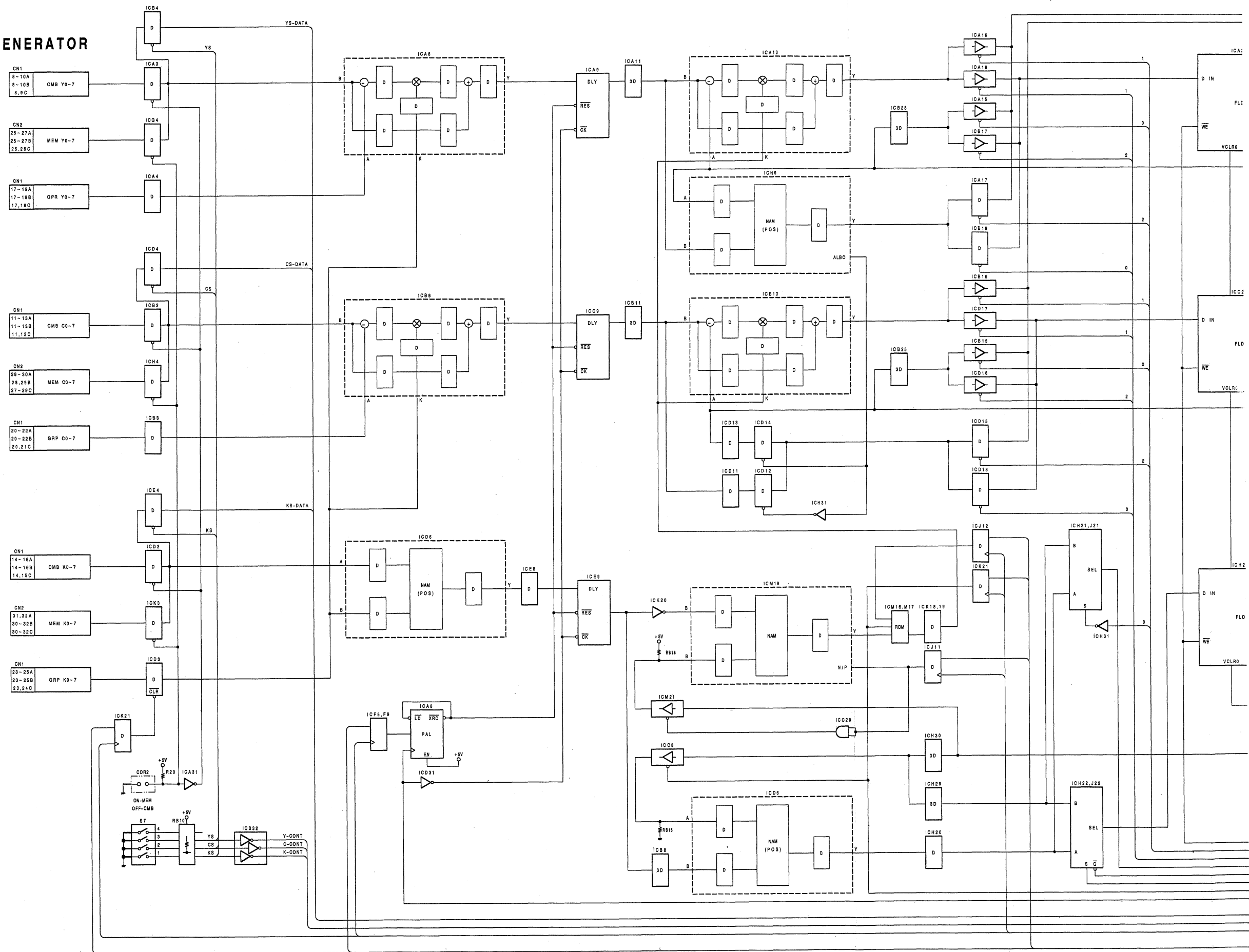
DPR-15(2/2) BLOCK  
DME-5000(J,UC)

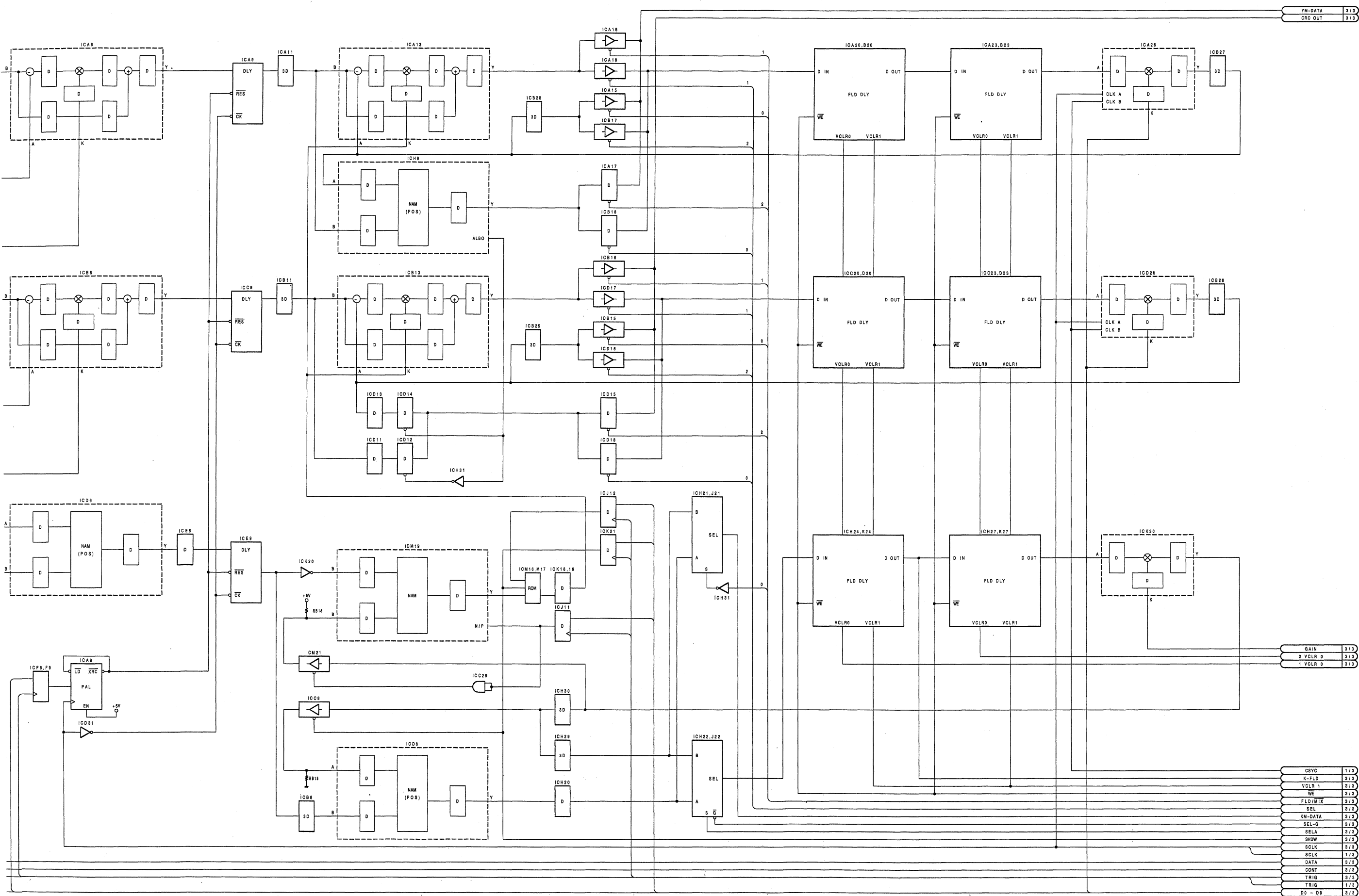






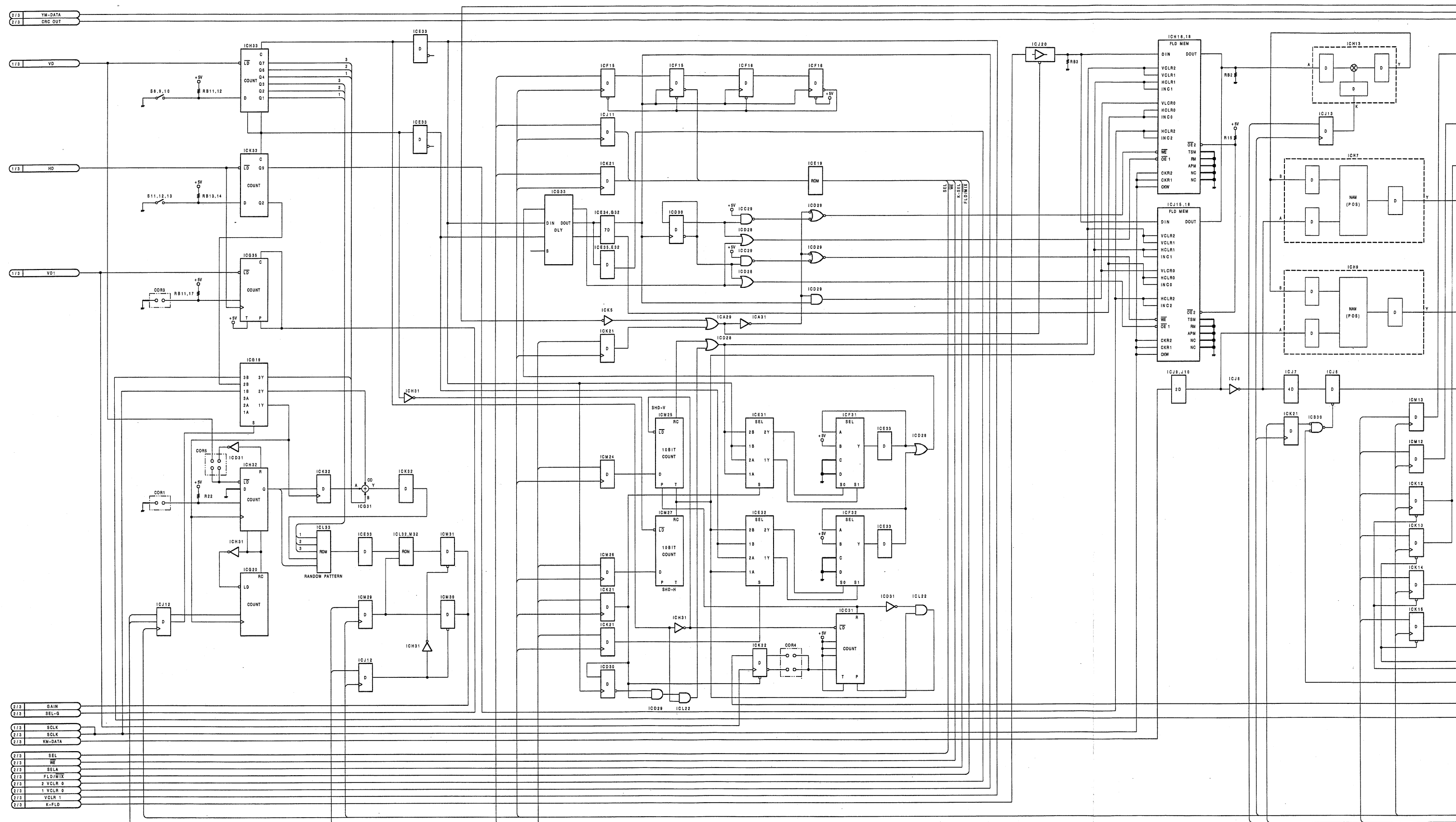
# OUTPUT RECURSIVE EFFECT GENERATOR AND BORDER GENERATOR

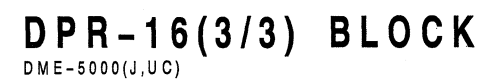




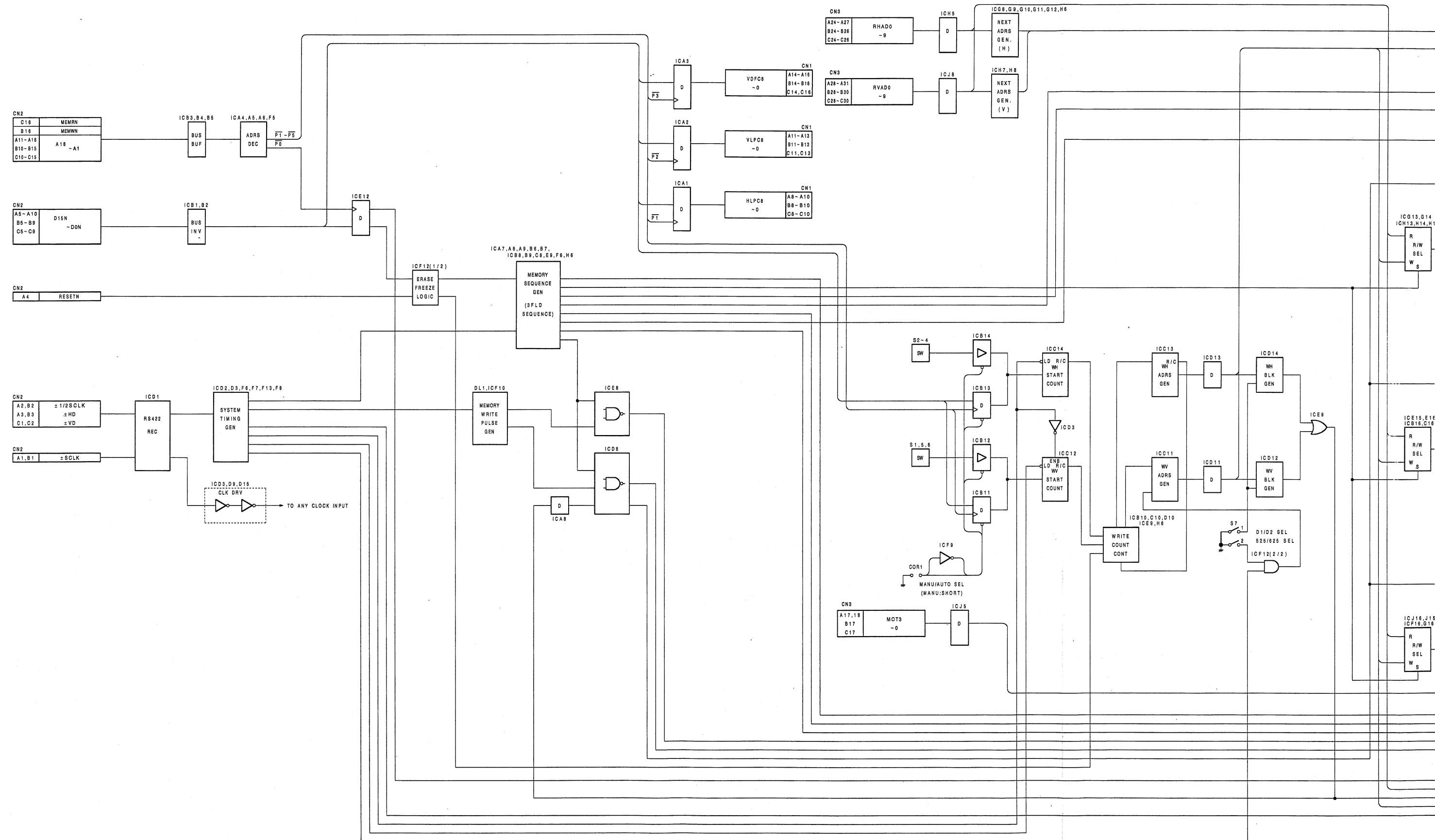
|          |     |
|----------|-----|
| YM-DATA  | 3/3 |
| CRC OUT  | 3/3 |
| GAIN     | 3/3 |
| 2 VCLR 0 | 3/3 |
| 1 VCLR 0 | 3/3 |
| CSVC     | 1/3 |
| K-FLD    | 3/3 |
| VCLR 1   | 3/3 |
| WE       | 3/3 |
| FLD/MIX  | 3/3 |
| SEL      | 3/3 |
| KM-DATA  | 3/3 |
| SEL-G    | 3/3 |
| SEL-A    | 3/3 |
| SHOW     | 3/3 |
| SCLK     | 3/3 |
| SCLK     | 1/3 |
| DATA     | 3/3 |
| CONT     | 3/3 |
| TRIG     | 3/3 |
| TRIG     | 1/3 |
| DO - DS  | 3/3 |

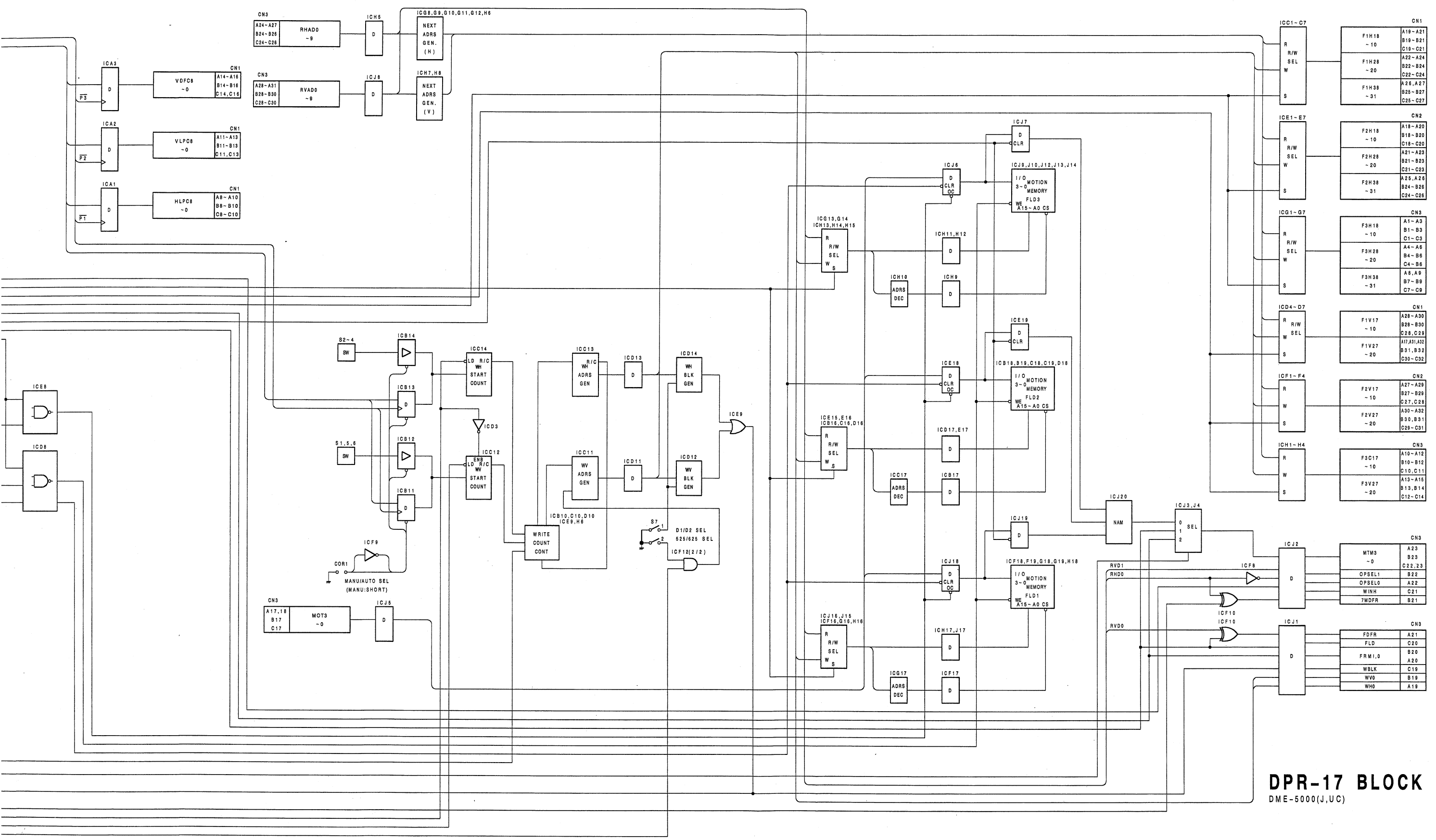
## OUTPUT RECURSIVE EFFECT GENERATOR AND BORDER GENERATOR



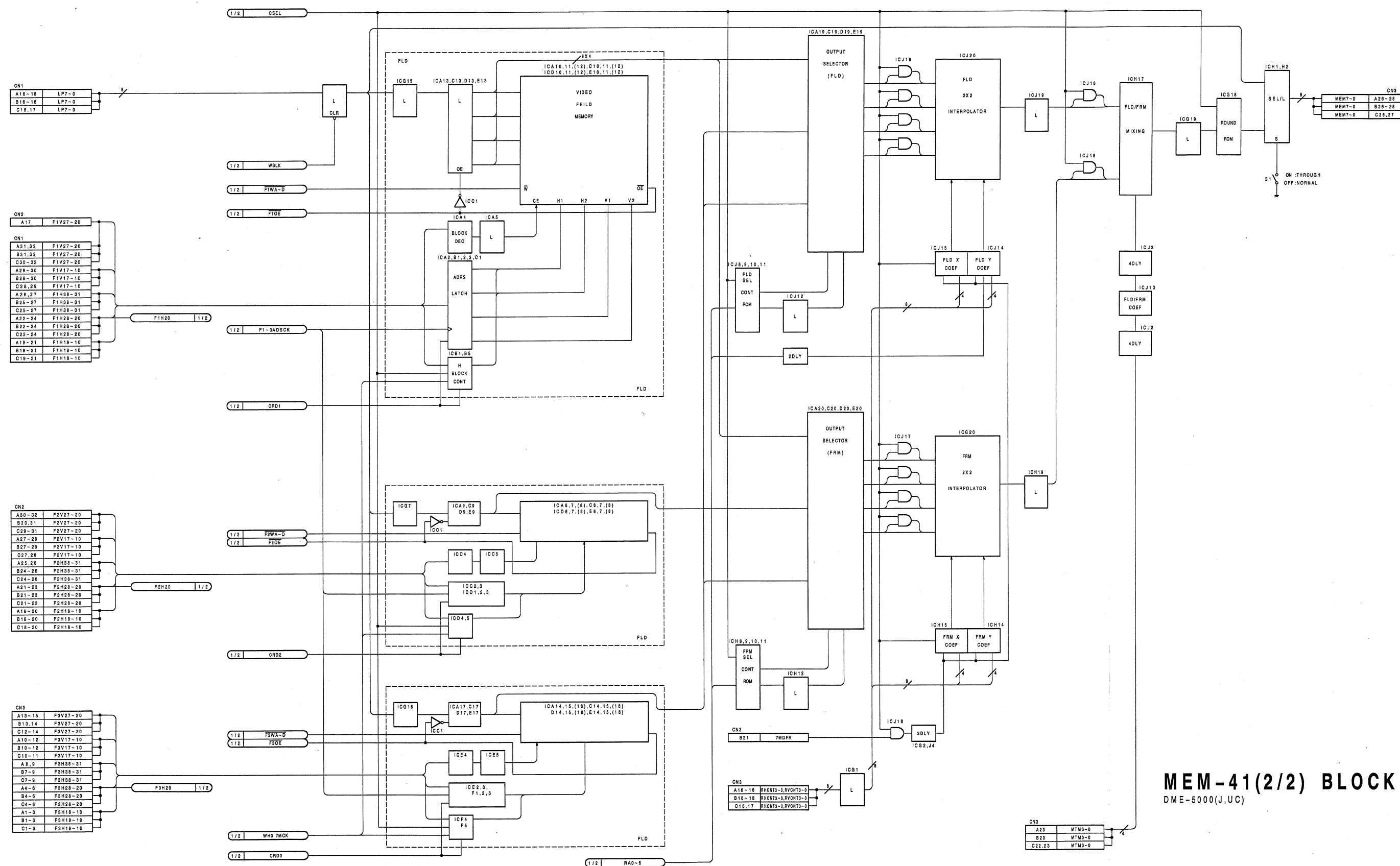


## MEMORY ADDRESS SELECTOR AND WRITE ADDRESS GENERATOR



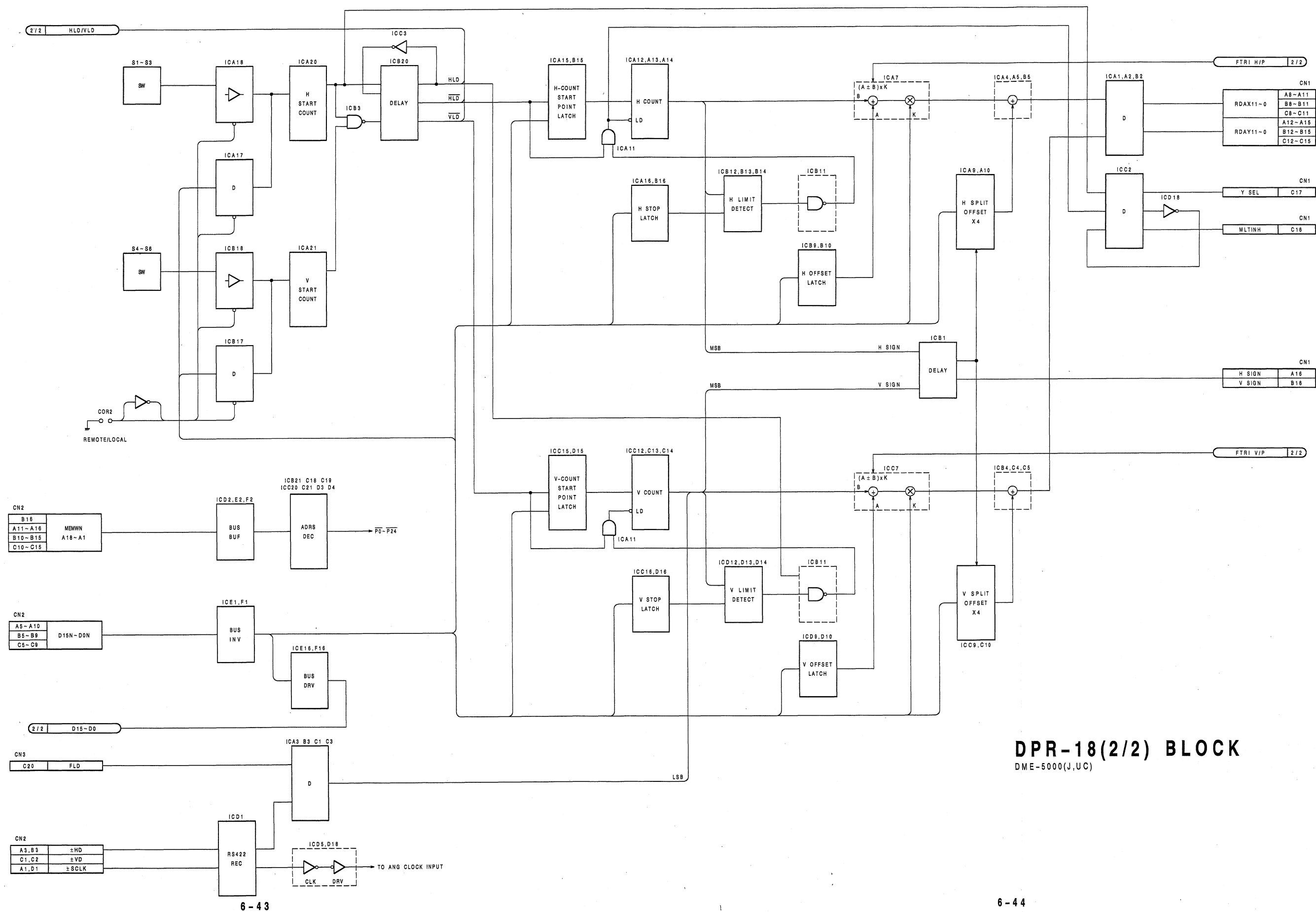


### 3 FIELD VIDEO MEMORY AND INTERPOLATOR



**MEM-41(2/2) BLOCK**  
DME-5000(J,UC)

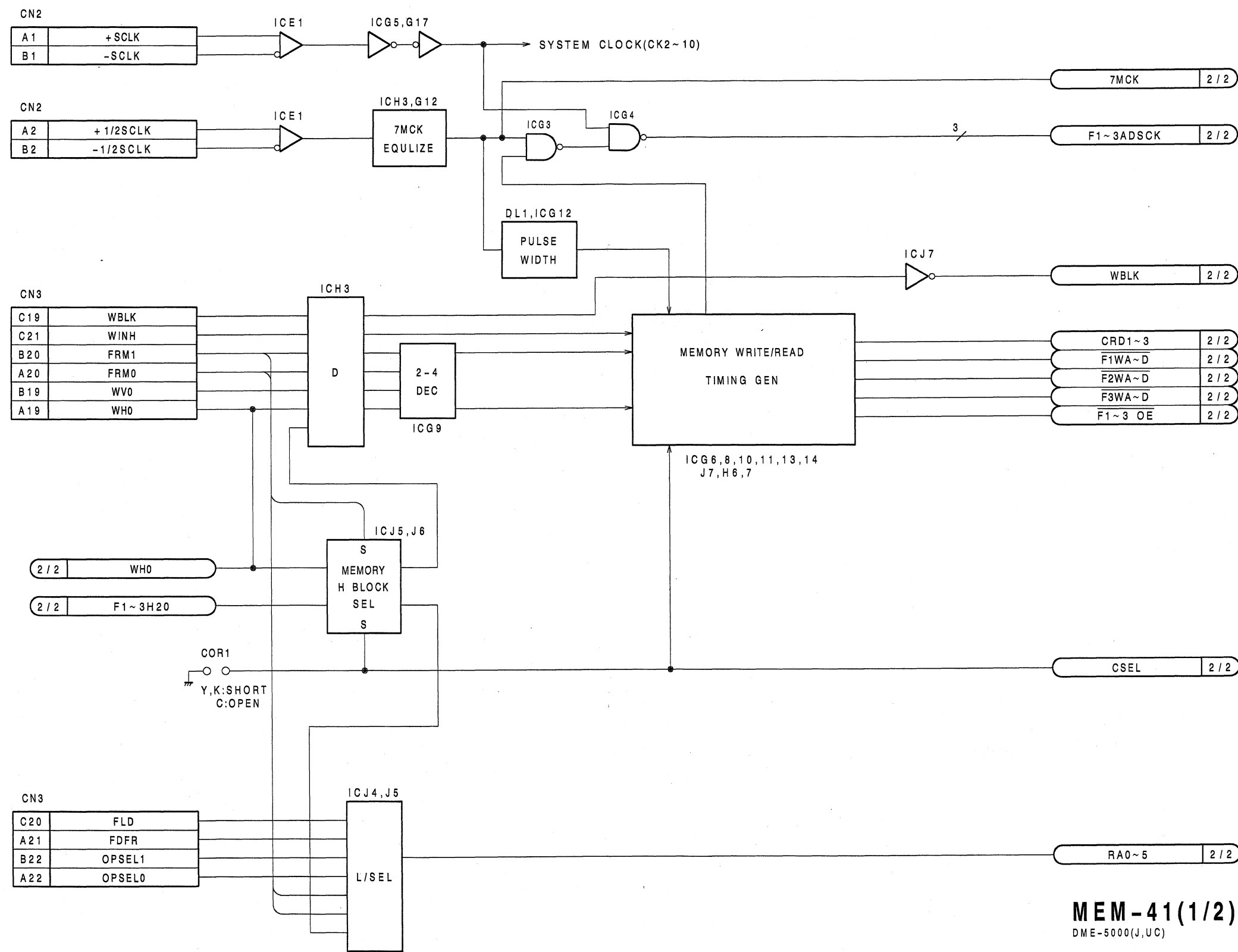
## READ ADDRESS GENERATOR AND SPLIT MIRROR GENERATOR



**DPR-18(2/2) BLOCK**  
DME-5000(J,UC)



3 FIELD VIDEO MEMORY AND INTERPOLATOR



MEM-41(1/2) BLOCK  
DME-5000(J,U,C)

## SECTION 7

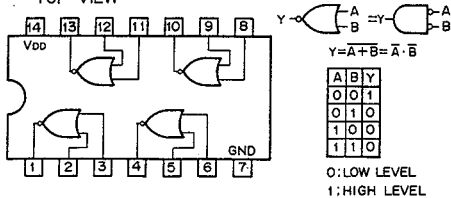
### SEMICONDUCTOR ELECTRODES

ここに記載されている IC, トランジスタ, ダイオードは, それぞれの機能を等価的に表したものです。したがって互換性を表すものではありません。(互換性のない型名が併記されている事もあります。) 部品の交換をする時は, SPARE PARTS の章を参照して下さい。

ICs, transistors and diodes whoses functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

| TYPE             | PAGE | TYPE                | PAGE | TYPE               | PAGE | TYPE                | PAGE |
|------------------|------|---------------------|------|--------------------|------|---------------------|------|
| <IC>             |      | AT27HC642-55DC..... | 7-8  | SM5828P.....       | 7-25 | SN74HC574N.....     | 7-29 |
| 74AC02PC.....    | 7-2  | AT27HC642-55PC..... | 7-8  | SN74ALS00AN.....   | 7-3  | SN74HC688N.....     | 7-30 |
| 74AC08PC.....    | 7-2  | CX20160.....        | 7-10 | SN74ALS04BN.....   | 7-3  | SN74HC74N.....      | 7-3  |
| 74AC109PC.....   | 7-2  | CX23024.....        | 7-11 | SN74ALS08N.....    | 7-3  | SN74HCT240N.....    | 7-29 |
| 74AC245PC.....   | 7-2  | CX23043.....        | 7-11 | SN74ALS138N.....   | 7-24 | SN74HCT244N.....    | 7-3  |
| 74AC32PC.....    | 7-2  | CXD8040G.....       | 7-12 | SN74ALS153N.....   | 7-4  | SN74HCT374N.....    | 7-29 |
| 74AC373PC.....   | 7-2  | CXD8156Q.....       | 7-13 | SN74ALS157AN.....  | 7-4  | SN74LS125AN.....    | 7-30 |
| 74AC74PC.....    | 7-3  | CXD8157Q.....       | 7-14 | SN74ALS158N.....   | 7-4  | SN74LS164N.....     | 7-5  |
| 74ACT244PC.....  | 7-3  | CXD8158Q.....       | 7-15 | SN74ALS161BN.....  | 7-25 | SN74LS283N.....     | 7-6  |
| 74ACT245PC.....  | 7-2  | CXK1206M.....       | 7-16 | SN74ALS163BN.....  | 7-5  | SN74LS640N.....     | 7-27 |
| 74ACT373PC.....  | 7-2  | CXK54256P-45.....   | 7-11 | SN74ALS175N.....   | 7-5  | SN74LS682N.....     | 7-30 |
| 74F00PC.....     | 7-3  | CXK581000P-10L..... | 7-17 | SN74ALS240AN.....  | 7-5  | TC74ACT04P.....     | 7-28 |
| 74F02PC.....     | 7-3  | CXK5814P-35.....    | 7-12 | SN74ALS244BN.....  | 7-26 | TC74HCT04AP.....    | 7-28 |
| 74F04PC.....     | 7-3  | CXK58257P-10LL..... | 7-16 | SN74ALS273N.....   | 7-26 | TD62083AP.....      | 7-30 |
| 74F08PC.....     | 7-3  | CXK58258SP-35.....  | 7-17 | SN74ALS27N.....    | 7-24 | TMC2111B2C.....     | 7-30 |
| 74F10PC.....     | 7-3  | CXQ70116P-8.....    | 7-18 | SN74ALS30AN.....   | 7-26 | TMS27C256-15JL..... | 7-31 |
| 74F139PC.....    | 7-4  | CXQ71011P.....      | 7-19 | SN74ALS32N.....    | 7-6  | TMS27C512-20JL..... | 7-31 |
| 74F148PC.....    | 7-4  | CXQ71059P.....      | 7-19 | SN74ALS374N.....   | 7-6  | uPD42101C-3.....    | 7-31 |
| 74F153PC.....    | 7-4  | CY7C291L-35PC.....  | 7-20 | SN74ALS541N.....   | 7-26 | uPD71051C-10.....   | 7-32 |
| 74F157APC.....   | 7-4  | EPM5016-1.....      | 7-17 | SN74ALS564AN.....  | 7-26 | uPD71054C-10.....   | 7-32 |
| 74F158APC.....   | 7-4  | GAL16V8A-10LP.....  | 7-18 | SN74ALS574AN.....  | 7-7  | uPD72001C.....      | 7-33 |
| 74F163APC.....   | 7-5  | HM63021P-28.....    | 7-20 | SN74ALS575ANT..... | 7-27 | V74ACT821PS.....    | 7-34 |
| 74F164PC.....    | 7-5  | HN58C65P-25.....    | 7-21 | SN74ALS640AN.....  | 7-27 | V74ACT827PS.....    | 7-34 |
| 74F175PC.....    | 7-5  | L29C520PC.....      | 7-21 | SN74ALS645AN.....  | 7-27 | WS27C010L-12D.....  | 7-35 |
| 74F20PC.....     | 7-5  | LSP001AC-Q.....     | 7-22 | SN74ALS688N.....   | 7-27 | WS57C291B-45S.....  | 7-34 |
| 74F240PC.....    | 7-5  | LT1171CT.....       | 7-21 | SN74ALS74AN.....   | 7-8  | WS57C291B-45T.....  | 7-34 |
| 74F283PC.....    | 7-6  | MAX232CPE.....      | 7-22 | SN74ALS86N.....    | 7-8  | <Diode>             |      |
| 74F32PC.....     | 7-6  | MAX691CPE.....      | 7-22 | SN74ALS874NT.....  | 7-28 | 1SS119.....         | 7-35 |
| 74F350PC.....    | 7-6  | MB7112L.....        | 7-21 | SN74HC02N.....     | 7-2  | S3S4M.....          | 7-35 |
| 74F374PC.....    | 7-6  | MB8421-90LP.....    | 7-23 | SN74HC04N.....     | 7-28 | SLR-320VC3.....     | 7-35 |
| 74F379PC.....    | 7-6  | MB8431-90LP.....    | 7-23 | SN74HC08N.....     | 7-2  | TLG123A.....        | 7-35 |
| 74F382PC.....    | 7-6  | MBM28C64-25.....    | 7-24 | SN74HC109N.....    | 7-2  | <Transistor>        |      |
| 74F382PC.....    | 7-6  | N74F85N.....        | 7-24 | SN74HC10N.....     | 7-28 | 2SA952.....         | 7-35 |
| 74F398PC.....    | 7-7  | PEEL18CV8-25.....   | 7-24 | SN74HC132N.....    | 7-28 |                     |      |
| 74F399PC.....    | 7-7  | PEEL18CV8P-35.....  | 7-24 | SN74HC133N.....    | 7-28 |                     |      |
| 74F534PC.....    | 7-7  |                     |      | SN74HC138N.....    | 7-28 |                     |      |
| 74F574PC.....    | 7-7  |                     |      | SN74HC14N.....     | 7-28 |                     |      |
| 74F64PC.....     | 7-7  |                     |      | SN74HC174N.....    | 7-29 |                     |      |
| 74F74PC.....     | 7-8  |                     |      | SN74HC240N.....    | 7-29 |                     |      |
| 74F86PC.....     | 7-8  |                     |      | SN74HC244N.....    | 7-3  |                     |      |
| A80386DX-16..... | 7-9  |                     |      | SN74HC245N.....    | 7-2  |                     |      |
| A80387DX-16..... | 7-10 |                     |      | SN74HC273N.....    | 7-29 |                     |      |
| AM26LS30PC.....  | 7-8  |                     |      | SN74HC32N.....     | 7-2  |                     |      |
| AM26LS32ACN..... | 7-8  |                     |      | SN74HC374N.....    | 7-29 |                     |      |
|                  |      |                     |      | SN74HC4024N.....   | 7-29 |                     |      |

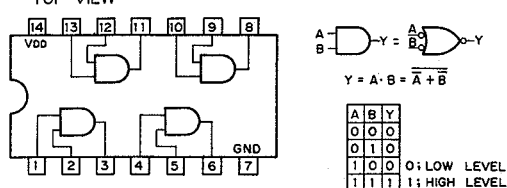
74AC02PC (NS)  
SN74HC02N (TI)  
C-MOS QUAD 2-INPUT NOR GATE  
- TOP VIEW -



NOTE:

| TYPE        | V <sub>DD</sub> |
|-------------|-----------------|
| TC74AC02F   | +2 to +5.5V     |
| OTHER TYPES | +2 to +6V       |

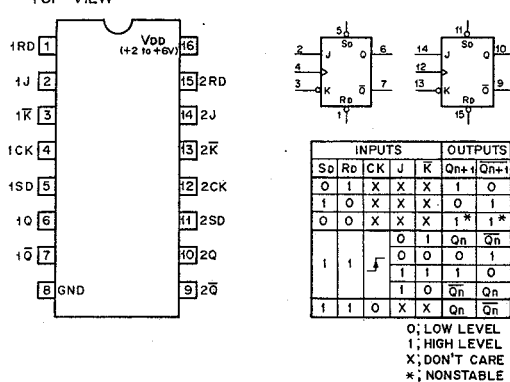
74AC08PC (NS)  
SN74HC08N (TI)  
C-MOS QUAD 2-INPUT AND GATE  
- TOP VIEW -



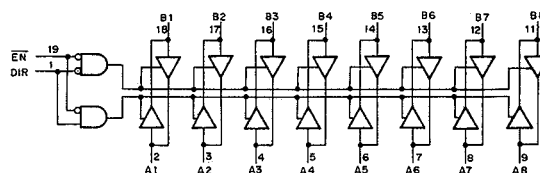
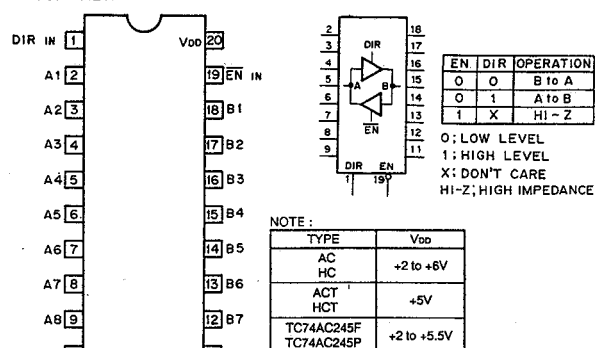
NOTE:

| TYPE        | V <sub>DD</sub> |
|-------------|-----------------|
| TC74AC08F   | +2 to +5.5V     |
| OTHER TYPES | +2 to +6V       |

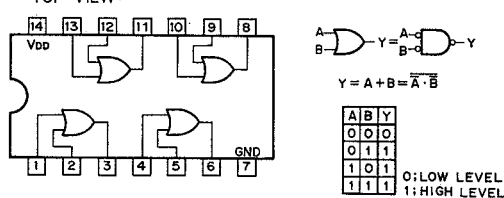
74AC109PC (NS)  
SN74HC109N (TI)  
C-MOS J-K FLIP-FLOP WITH DIRECT SET/RESET  
- TOP VIEW -



74AC245PC (NS)  
74ACT245PC (NS)  
SN74HC245N (TI)  
C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS  
- TOP VIEW -



74AC32PC (NS)  
SN74HC32N (TI)  
C-MOS 2-INPUT OR GATE  
- TOP VIEW -

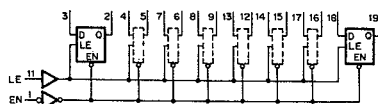
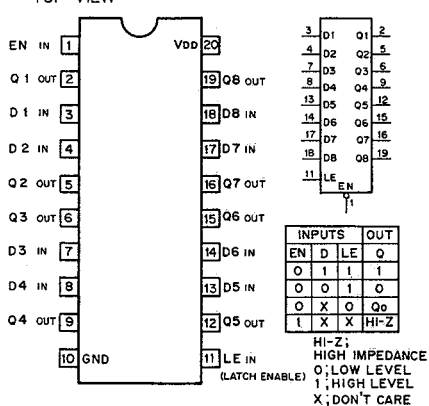


NOTE:

| TYPE        | V <sub>DD</sub> |
|-------------|-----------------|
| TC74AC32F   | +2 to +5.5V     |
| OTHER TYPES | +2 to +6V       |

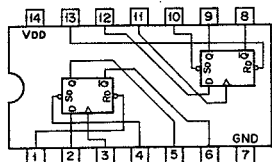
74AC373PC (NS) (V<sub>DD</sub> = +2 to +6V)  
74ACT373PC (NS) (V<sub>DD</sub> = +5V)

C-MOS 3-STATE OUTPUTS OCTAL LATCHES  
- TOP VIEW -



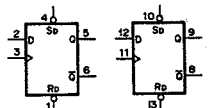
74ACT74PC (NS)  
SN74HC74N (TI)

C-MOS D-TYPE FLIP FLOP WITH DIRECT SET/RESET  
- TOP VIEW -



| INPUTS                             | OUTPUTS                         |
|------------------------------------|---------------------------------|
| S <sub>0</sub> R <sub>0</sub> CK D | Q <sub>n+1</sub> Q <sub>n</sub> |
| 0 1 X X                            | 1 0                             |
| 1 0 X X                            | 0 1                             |
| 0 0 X X                            | 1 1                             |
| 1 1 X X                            | 0 0                             |
| 1 1 1 1                            | 0 1                             |
| 1 1 0 0                            | 0 0                             |
| 1 1 0 X                            | Q <sub>n</sub> Q <sub>n</sub>   |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

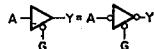
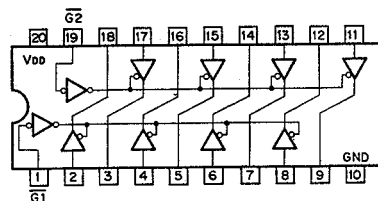


NOTE:

| TYPE        | V <sub>DD</sub> |
|-------------|-----------------|
| 74ACT       | +5V             |
| TC74ACT74F  | +2 to +5.5V     |
| TC74ACT74F  | +4.5 to +5.5V   |
| OTHER TYPES | +2 to +6V       |

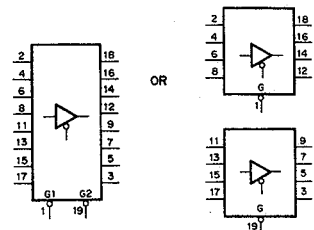
74ACT244PC (NS)  
SN74HC244N (TI)  
SN74HCT244N (TI)

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS  
- TOP VIEW -



| G | A | Y    |
|---|---|------|
| 0 | 0 | 0    |
| 0 | 1 | 1    |
| 1 | X | Hi-Z |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE  
Hi-Z: HIGH IMPEDANCE

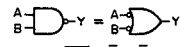
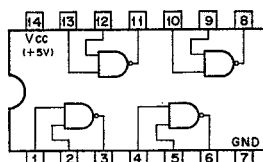


NOTE:

| TYPE | V <sub>DD</sub> |
|------|-----------------|
| AC   | +2 to +6V       |
| HC   |                 |
| 40H  |                 |
| ACT  | +5V             |
| HCT  |                 |

74F00PC (NS)  
SN74ALS00AN (TI)

TTL 2-INPUT POSITIVE-NAND GATE  
- TOP VIEW -

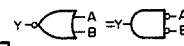
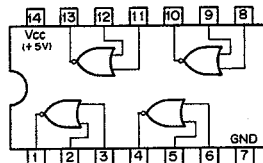


| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

0: LOW LEVEL  
1: HIGH LEVEL

74F02PC (NS)

TTL 2-INPUT POSITIVE-NOR GATE  
- TOP VIEW -

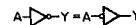
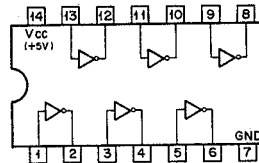


| A | B | Y |
|---|---|---|
| 0 | 0 | 1 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 0 |

0: LOW LEVEL  
1: HIGH LEVEL

74F04PC (NS)  
SN74ALS04BN (TI)

TTL INVERTER  
- TOP VIEW -

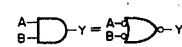
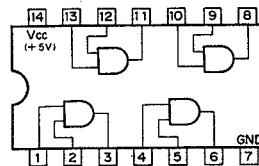


| A | Y |
|---|---|
| 0 | 1 |
| 1 | 0 |

0: LOW LEVEL  
1: HIGH LEVEL

74F08PC (NS)  
SN74ALS08N (TI)

TTL 2-INPUT POSITIVE-AND GATE  
- TOP VIEW -

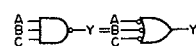
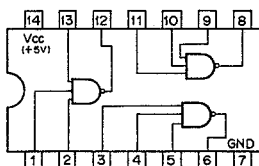


| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

0: LOW LEVEL  
1: HIGH LEVEL

74F10PC (NS)

TTL 3-INPUT POSITIVE NAND GATE  
- TOP VIEW -

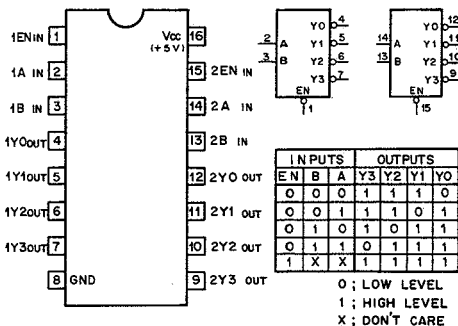


| A | B | C | Y |
|---|---|---|---|
| 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 1 |
| 0 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 0 |

0: LOW LEVEL  
1: HIGH LEVEL

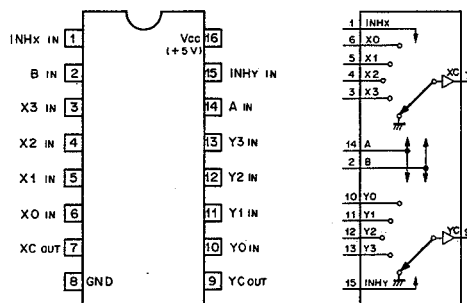
74F139PC (NS)

TTL 2-TO-4-LINE DECODER/DEMULTIPLEXER  
- TOP VIEW -



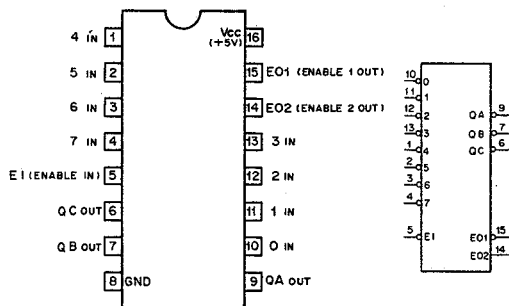
74F153PC (NS)

SN74ALS153N (TI)  
TTL 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER  
- TOP VIEW -



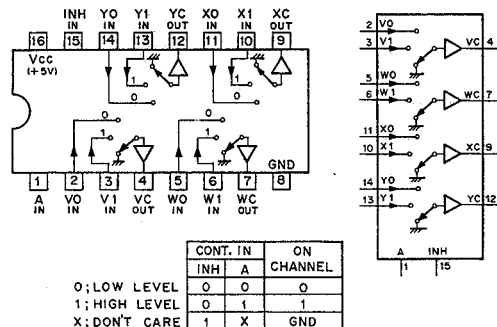
74F148PC (NS)

TTL 8-TO-3-LINE PRIORITY ENCODER  
- TOP VIEW -



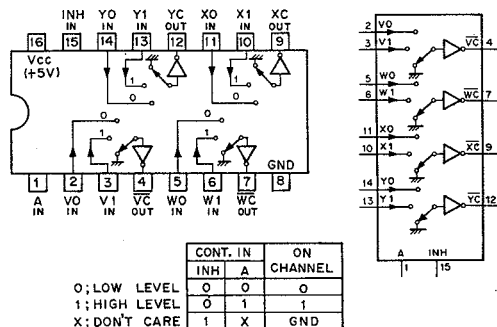
74F157APC (NS)

SN74ALS157AN (TI)  
TTL 2-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER  
- TOP VIEW -



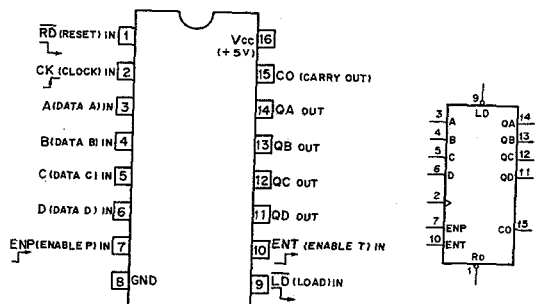
74F158APC (NS)

SN74ALS158N (TI)  
TTL 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER  
- TOP VIEW -



74F163APC (NS)  
SN74ALS163BN (TI)

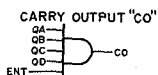
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER  
- TOP VIEW -



## MODE SELECTION

| CONTROL INPUTS |    |     |     | MODE                    |
|----------------|----|-----|-----|-------------------------|
| Rd             | LD | ENP | ENT |                         |
| 0              | X  | X   | X   | RESET<br>(SYNCHRONOUS)  |
| 1              | 0  | X   | X   | PRESET<br>(SYNCHRONOUS) |
| 1              | 1  | 0   | X   | NO COUNT                |
| 1              | 1  | X   | 0   | NO COUNT                |
| 1              | 1  | 1   | 1   | COUNT                   |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE



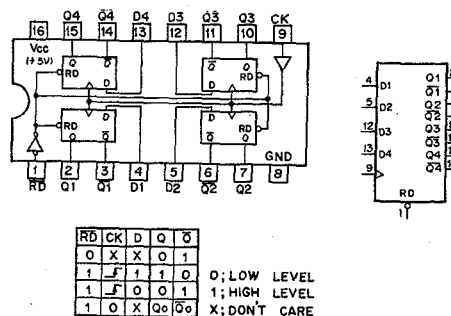
CO IS HIGH WHEN ENT INPUT IS HIGH AND COUNT IS "15"

## COUNT SEQUENCE

| COUNT | QD | QC | QB | QA |
|-------|----|----|----|----|
| 0     | 0  | 0  | 0  | 0  |
| 1     | 0  | 0  | 0  | 1  |
| 2     | 0  | 0  | 1  | 0  |
| 3     | 0  | 0  | 1  | 1  |
| 4     | 0  | 1  | 0  | 0  |
| 5     | 0  | 1  | 0  | 1  |
| 6     | 0  | 1  | 1  | 0  |
| 7     | 0  | 1  | 1  | 1  |
| 8     | 1  | 0  | 0  | 0  |
| 9     | 1  | 0  | 0  | 1  |
| 10    | 1  | 0  | 1  | 0  |
| 11    | 1  | 0  | 1  | 1  |
| 12    | 1  | 1  | 0  | 0  |
| 13    | 1  | 1  | 0  | 1  |
| 14    | 1  | 1  | 1  | 0  |
| 15    | 1  | 1  | 1  | 1  |

74F175PC (NS)  
SN74ALS175N (TI)

TTL D-TYPE FLIP-FLOP WITH CLEAR  
- TOP VIEW -

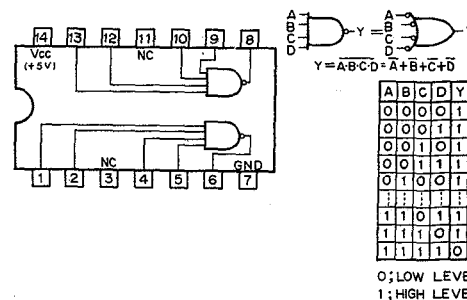


| RD | CK | D | Q  | 0 |
|----|----|---|----|---|
| 0  | X  | X | 0  | 1 |
| 1  | 1  | 1 | 1  | 0 |
| 1  | 1  | 0 | 0  | 1 |
| 1  | 0  | X | Qc | 0 |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

74F20PC (NS)

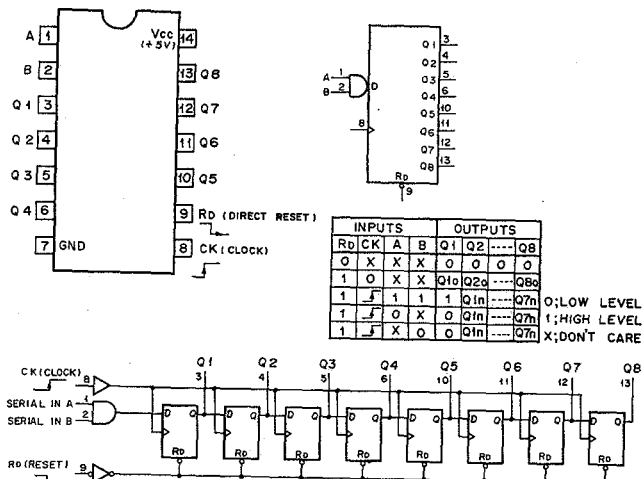
TTL 4-INPUT POSITIVE NAND GATE  
- TOP VIEW -






0: LOW LEVEL  
1: HIGH LEVEL

74F164PC (NS)  
SN74LS164N (TI)

TTL 8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER  
- TOP VIEW -



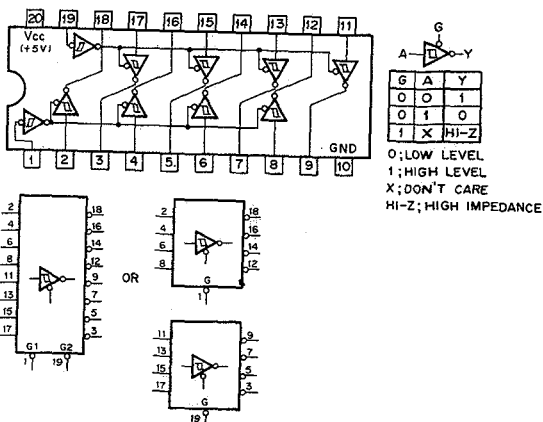
| INPUTS |   |   |   | OUTPUTS |     |      |     |
|--------|---|---|---|---------|-----|------|-----|
| Rd     | CK  | A | B | Q1      | Q2  | ---- | Q8  |
| 0      | X   | X | X | 0       | 0   | 0    | 0   |
| 1      | 0   | X | X | Q1o     | Q2o | ---- | Q8o |
| 1      |  | 1 | 1 | 1       | Q1n | ---- | Q7n |
| 1      |  | 0 | X | 0       | Q1n | ---- | Q7n |
| 1      |  | X | 0 | 0       | Q1n | ---- | Q7n |

0: LOW LEVEL  
 1: HIGH LEVEL  
 X: DON'T CARE

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

74F240PC (NS)  
SN74ALS240AN (TI)

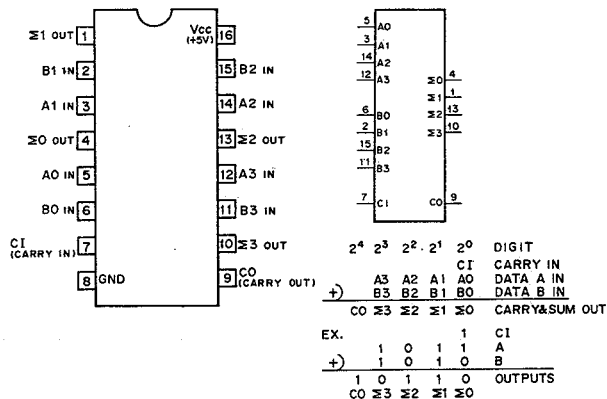
TTL 3-STATE SCHMITT TRIGGER INVERTER/LINE DRIVER  
- TOP VIEW -



0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE  
HI-Z: HIGH IMPEDANCE

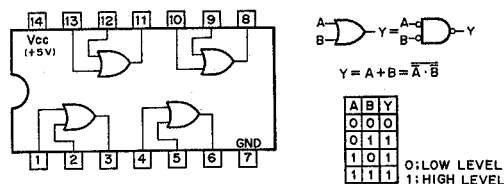
74F283PC (NS)  
SN74LS283N (TI)

TTL 4-BIT BINARY FULL ADDER  
- TOP VIEW -

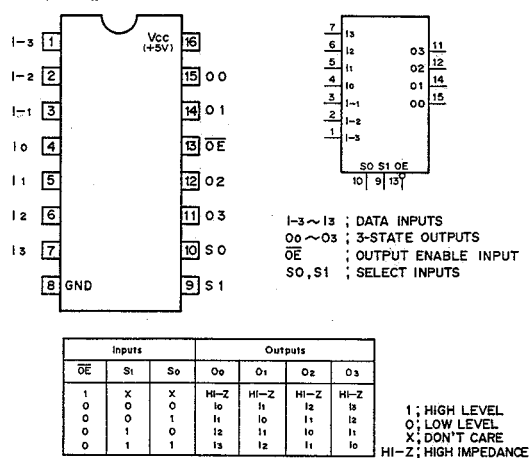


74F32PC (NS)  
SN74ALS32N (TI)

TTL 2-INPUT POSITIVE-OR GATE  
- TOP VIEW -

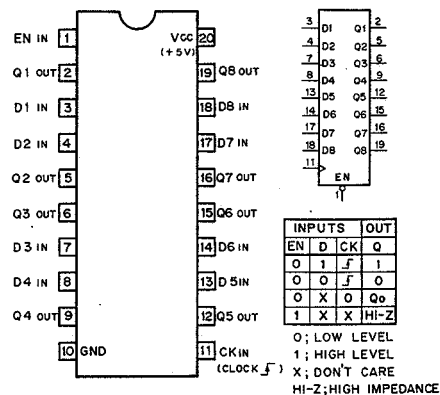


74F350PC (NS)  
4-BIT SHIFTER WITH 3-STATE OUTPUTS  
- TOP VIEW -



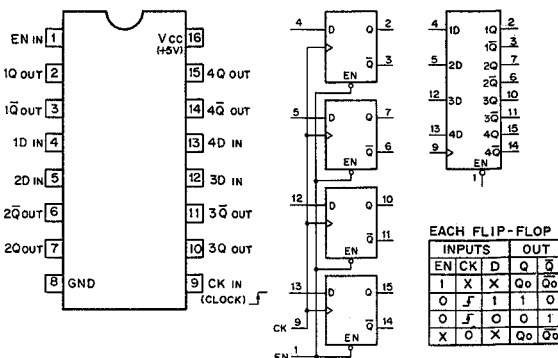
74F374PC (NS)  
SN74ALS374N (TI)

TTL 3-STATE OUTPUTS OCTAL D-TYPE FLIP-FLOP  
- TOP VIEW -



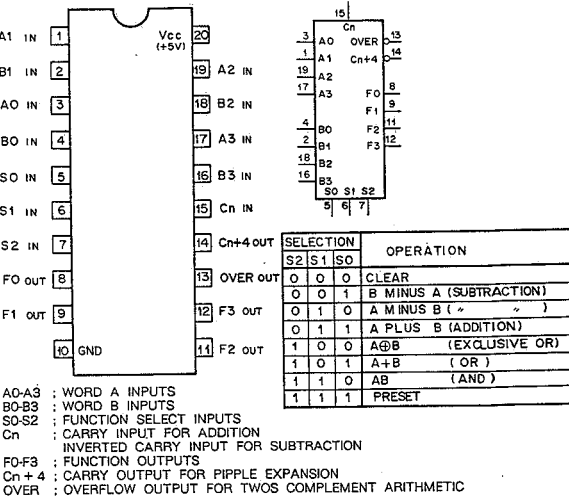
74F379PC (NS)

TTL QUAD D-TYPE FLIP-FLOP WITH ENABLE  
- TOP VIEW -

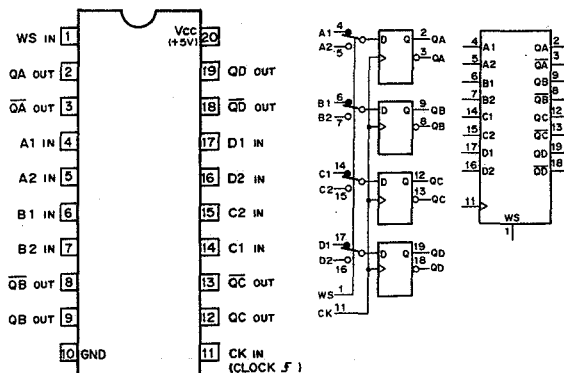


74F382PC (NS)

TTL ARITHMETIC LOGIC UNIT  
- TOP VIEW -



## 74F398PC (NS)

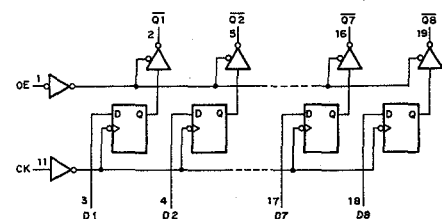
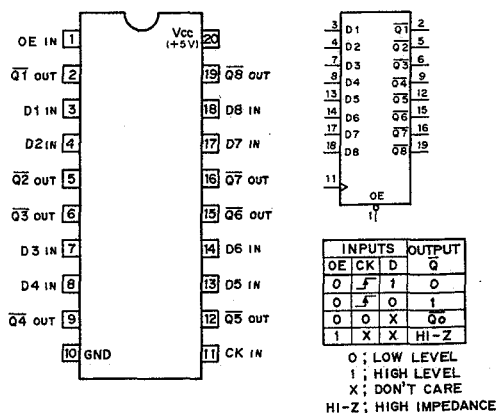
TTL QUAD 2-INPUT MULTIPLEXERS WITH STRAGE  
- TOP VIEW -

WS: WORD SELECT

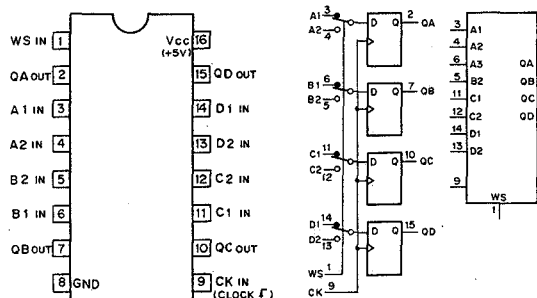
| INPUTS |    | OUTPUTS |     |     |     |
|--------|----|---------|-----|-----|-----|
| WS     | CK | QA      | QB  | QC  | QD  |
| 0      | 1  | A1      | B1  | C1  | D1  |
| 1      | 1  | A2      | B2  | C2  | D2  |
| X      | 0  | QA0     | QB0 | QC0 | QD0 |

1: HIGH LEVEL  
0: LOW LEVEL  
X: DON'T CARE

## 74F534PC (NS)

TTL D-TYPE EDGE-TRIGGERED FLIP-FLOPS WITH 3-STATE OUTPUTS  
- TOP VIEW -

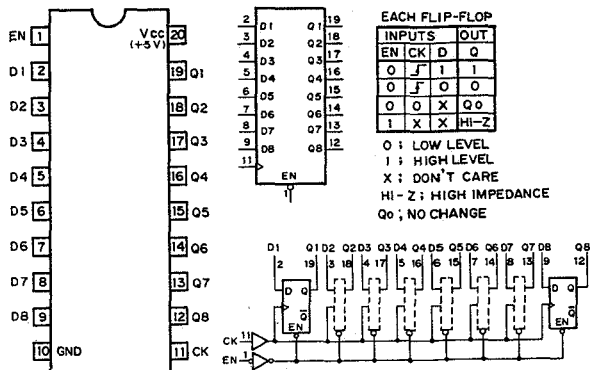
## 74F399PC (NS)

TTL QUAD 2-INPUT MULTIPLEXERS WITH STORAGE  
- TOP VIEW -

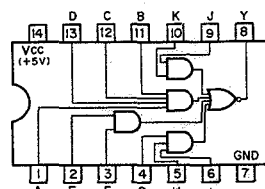
WS: WORD SELECT

| INPUTS |    | OUTPUTS |     |     |     |
|--------|----|---------|-----|-----|-----|
| WS     | CK | QA      | QB  | QC  | QD  |
| 0      | 1  | A1      | B1  | C1  | D1  |
| 1      | 1  | A2      | B2  | C2  | D2  |
| X      | 0  | QA0     | QB0 | QC0 | QD0 |

1: HIGH LEVEL  
0: LOW LEVEL  
X: DON'T CARE

74F574PC (NS)  
SN74ALS574AN (TI)TTL 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP  
- TOP VIEW -

## 74F64PC (NS)

4-2-3-2 INPUT POSITIVE AND-OR-INVERT GATES  
- TOP VIEW -

$$Y = ABCD + EF + GHI + JK$$

$$= (\bar{A} + \bar{B} + \bar{C} + \bar{D})(\bar{E} + \bar{F})(\bar{G} + \bar{H} + \bar{I})(\bar{J} + \bar{K})$$

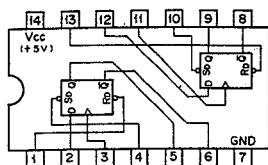
| A | B | C | D | E | F | G | H | I | J | K | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE



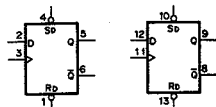
74F74PC (NS)  
SN74ALS74AN (TI)

TTL D-TYPE FLIP FLOP WITH DIRECT SET/RESET  
- TOP VIEW -



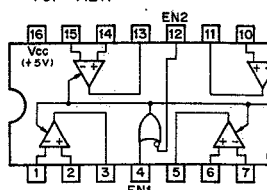
| INPUTS | OUTPUTS |
|--------|---------|
| Set    | Qn+1    |
| Reset  | Qn      |
| D      | Qn+1    |
| Qn     | Qn      |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE  
1\*; NONSTABLE



AM26LS32ACN (TI)

HIGH SPEED DIFFERENTIAL LINE RECEIVER  
- TOP VIEW -



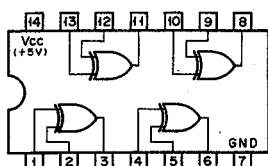
| EN2 | EN1 | OUTPUT |
|-----|-----|--------|
| 0   | 0   | ENABLE |
| 0   | 1   | ENABLE |
| 1   | 0   | HI-Z   |
| 1   | 1   | ENABLE |

0; LOW LEVEL  
1; HIGH LEVEL  
HI-Z; HIGH IMPEDANCE

| SENSE | INPUT VOLT  |
|-------|-------------|
| LS32  | ±200mV ±7V  |
| LS33  | ±500mV ±15V |

74F86PC (NS)  
SN74ALS86N (TI)

TTL EXCLUSIVE OR GATE  
- TOP VIEW -

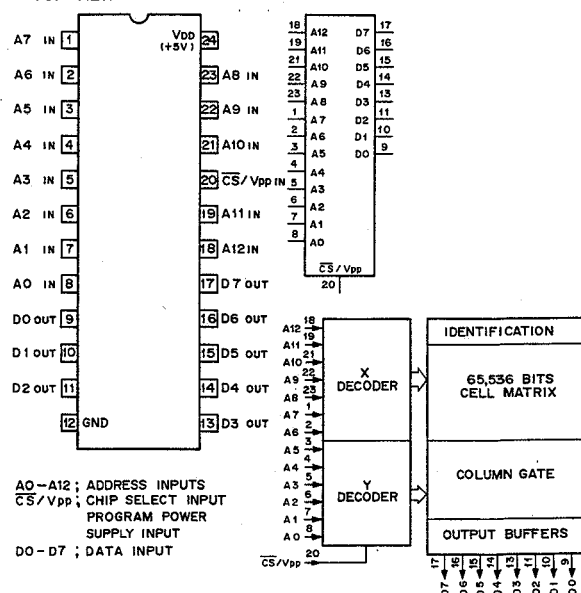


$$Y = A \oplus B = A \bar{B} + \bar{A} B$$

| A | B | Y |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

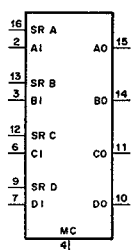
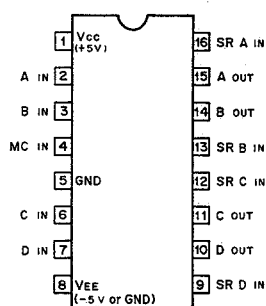
0; LOW LEVEL  
1; HIGH LEVEL

AT27HC642-55DC (ATMEL)  
AT27HC642-55PC (ATMEL)  
C-MOS 64K(8192x8)-BIT UV EPROM  
- TOP VIEW -



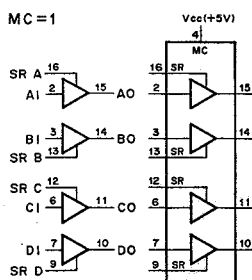
AM26LS30PC (ADVANCED MICRO DEVICES)

LINE DRIVER  
- TOP VIEW -

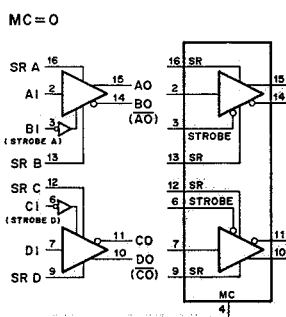


MC; MODE CONTROL  
SR; SLEW RATE CONTROL

MC=1



MC=0

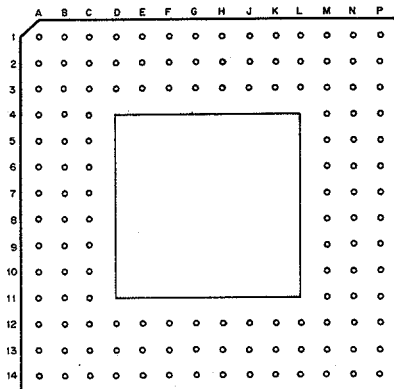


| INPUTS | OUTPUTS |
|--------|---------|
| MC     | A TO D  |
| A      | A TO D  |
| B      | A TO D  |
| C      | A TO D  |
| D      | A TO D  |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE  
HI-Z; HIGH IMPEDANCE

| INPUTS | OUTPUTS |
|--------|---------|
| MC     | A TO D  |
| A      | A TO D  |
| B      | A TO D  |
| C      | A TO D  |
| D      | A TO D  |

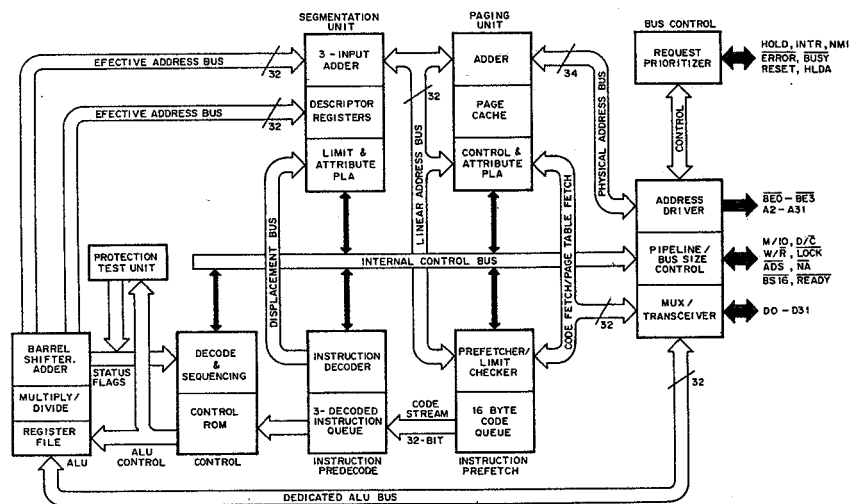
**A80386DX-16 (INTEL)**  
**C-MOS 32-BIT MICROPROCESSOR**  
**- BOTTOM VIEW -**



**INPUT**  
 BS16 : BUS SIZE 16 (H: 32-BIT, L: 16-BIT DATA BUS)  
 BUSY : COPROCESSOR BUSY  
 CLK2 : CLOCK  
 ERROR : COPROCESSOR ERROR  
 HOLD : BUS HOLD REQUEST  
 INTR : MASKABLE INTERRUPT REQUEST  
 NA : NEXT ADDRESS REQUEST  
 NMI : NON-MASKABLE INTERRUPT REQUEST  
 PEREQ : PROCESSOR EXTENSION REQUEST  
 READY : TRANSFER ACKNOWLEDGE  
 RESET : RESET

**OUTPUT**  
 A2 - A31 : ADDRESS BUS  
 ADS : ADDRESS STATUS  
 BE0 - BE3 : BYTE ENABLES  
 D/C : DATA-CONTROL INDICATION  
 HLDA : BUS HOLD ACKNOWLEDGE  
 LOCK : BUS LOCK INDICATION  
 M/I/O : MEMORY/I/O INDICATION  
 W/R : WRITE-READ INDICATION

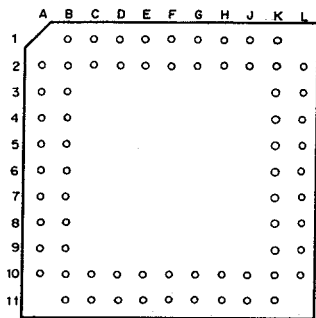
**INPUT/OUTPUT**  
 D0 - D31 : DATA BUS



(V<sub>DD</sub> = +5V)

| PIN NO. | I/O | SYMBOL          | PIN NO. | I/O | SYMBOL          | PIN NO. | I/O | SYMBOL          | PIN NO. | I/O | SYMBOL          |
|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|
| A1      | -   | V <sub>DD</sub> | C6      | -   | NC              | H1      | O   | A17             | M10     | -   | GND             |
| A2      | -   | GND             | C7      | -   | NC              | H2      | O   | A18             | M11     | I/O | D15             |
| A3      | O   | A3              | C8      | I   | PEREQ           | H3      | O   | A19             | M12     | I/O | D10             |
| A4      | -   | NC              | C9      | I   | RESET           | H12     | I/O | D0              | M13     | -   | V <sub>DD</sub> |
| A5      | -   | V <sub>DD</sub> | C10     | O   | LOCK            | H13     | I/O | D1              | M14     | O   | HLDA            |
| A6      | -   | GND             | C11     | -   | GND             | H14     | I/O | D2              | N1      | O   | A27             |
| A7      | -   | V <sub>DD</sub> | C12     | -   | V <sub>DD</sub> | J1      | O   | A20             | N2      | O   | A31             |
| A8      | I   | ERROR           | C13     | O   | BE1             | J2      | -   | GND             | N3      | -   | GND             |
| A9      | -   | GND             | C14     | I   | BS16            | J3      | -   | GND             | N4      | -   | V <sub>DD</sub> |
| A10     | -   | V <sub>DD</sub> | D1      | O   | A11             | J12     | -   | GND             | N5      | I/O | D27             |
| A11     | O   | D/C             | D2      | O   | A10             | J13     | -   | GND             | N6      | I/O | D25             |
| A12     | O   | M/I/O           | D3      | O   | A9              | J14     | I/O | D3              | N7      | -   | V <sub>DD</sub> |
| A13     | O   | BE3             | D12     | -   | V <sub>DD</sub> | K1      | O   | A21             | N8      | I/O | D23             |
| A14     | -   | V <sub>DD</sub> | D13     | O   | NA              | K2      | O   | A22             | N9      | I/O | D21             |
| B1      | -   | GND             | D14     | I   | HOLD            | K3      | O   | A25             | N10     | I/O | D17             |
| B2      | O   | A5              | E1      | O   | A14             | K12     | I/O | D7              | N11     | I/O | D16             |
| B3      | O   | A4              | E2      | O   | A13             | K13     | I/O | D5              | N12     | I/O | D12             |
| B4      | -   | NC              | E3      | O   | A12             | K14     | I/O | D4              | N13     | I/O | D11             |
| B5      | -   | GND             | E12     | O   | BE0             | L1      | O   | A23             | N14     | I/O | D9              |
| B6      | -   | NC              | E13     | -   | NC              | L2      | O   | A24             | P1      | O   | A30             |
| B7      | I   | INTR            | E14     | O   | ADS             | L3      | O   | A28             | P2      | -   | V <sub>DD</sub> |
| B8      | I   | NMI             | F1      | O   | A15             | L12     | -   | V <sub>DD</sub> | P3      | I/O | D30             |
| B9      | I   | BUSY            | F2      | -   | GND             | L13     | I/O | D8              | P4      | I/O | D29             |
| B10     | O   | W/R             | F3      | -   | GND             | L14     | I/O | D6              | P5      | I/O | D26             |
| B11     | -   | GND             | F12     | I   | CLK2            | M1      | O   | A26             | P6      | -   | GND             |
| B12     | -   | NC              | F13     | -   | NC              | M2      | O   | A29             | P7      | I/O | D24             |
| B13     | O   | BE2             | F14     | -   | GND             | M3      | -   | V <sub>DD</sub> | P8      | -   | V <sub>DD</sub> |
| B14     | -   | GND             | G1      | O   | A16             | M4      | -   | GND             | P9      | I/O | D22             |
| C1      | O   | A8              | G2      | -   | V <sub>DD</sub> | M5      | I/O | D31             | P10     | I/O | D19             |
| C2      | O   | A7              | G3      | -   | V <sub>DD</sub> | M6      | I/O | D28             | P11     | I/O | D18             |
| C3      | O   | A6              | G12     | -   | V <sub>DD</sub> | M7      | -   | V <sub>DD</sub> | P12     | I/O | D14             |
| C4      | O   | A2              | G13     | I   | READY           | M8      | -   | GND             | P13     | I/O | D13             |
| C5      | -   | V <sub>DD</sub> | G14     | -   | V <sub>DD</sub> | M9      | I/O | D20             | P14     | -   | GND             |

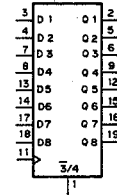
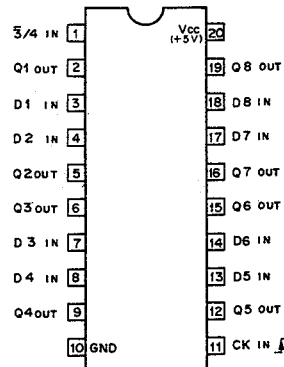
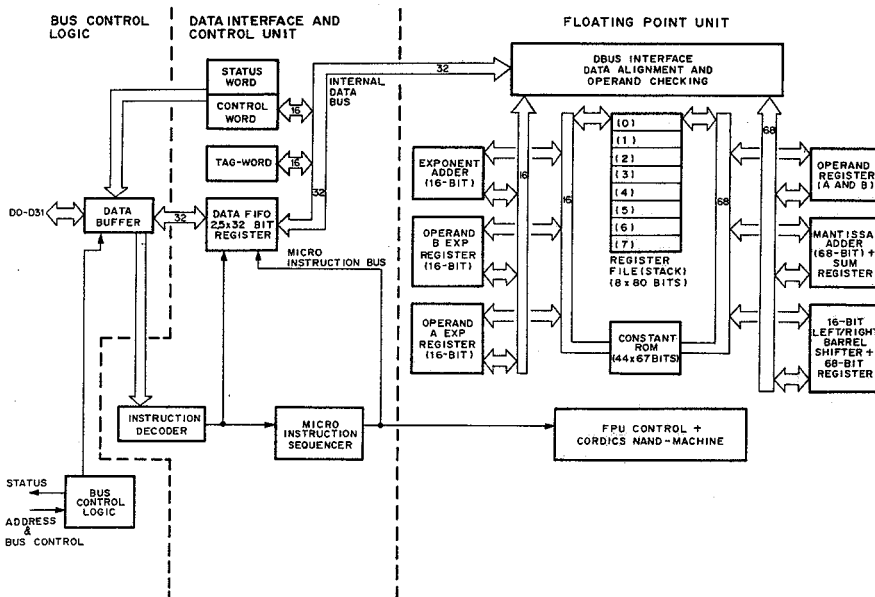
## A80387DX-16 (INTEL)

NUMERICS COPROCESSOR  
- BOTTOM VIEW -

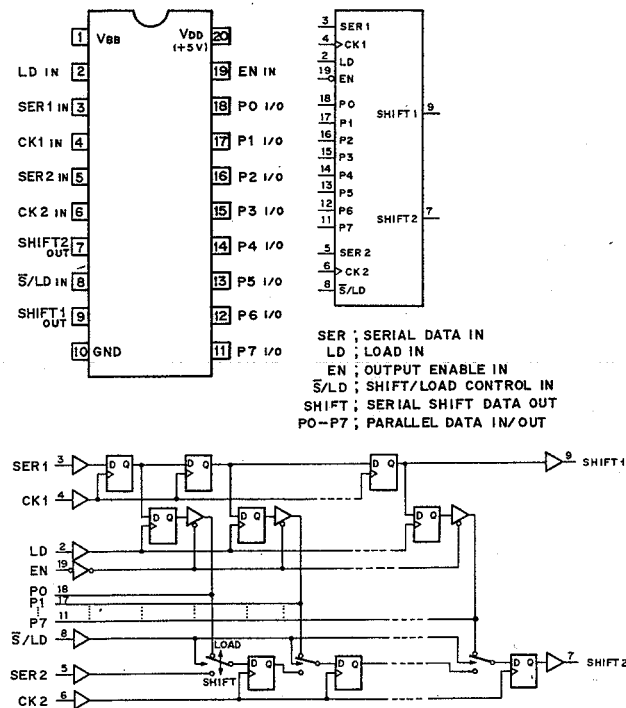
VDD = +5V

| PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL | PIN No. | I/O | SIGNAL   |
|---------|-----|--------|---------|-----|--------|---------|-----|--------|---------|-----|----------|
| 1B      | I/O | D8     | 2H      | I/O | D0     | 6K      | I   | NPS2   | 10C     | I/O | D23      |
| 1C      | I/O | D7     | 2L      | O   | ERROR  | 6L      | I   | NPS1   | 10D     | I/O | D24      |
| 1D      | I/O | D6     | 3A      | I/O | D11    | 7A      | I/O | D16    | 10E     | I/O | D25      |
| 1E      | -   | VDD    | 3B      | I/O | D10    | 7B      | -   | GND    | 10F     | -   | VDD      |
| 1F      | -   | VDD    | 3K      | -   | VDD    | 7K      | I   | ADS    | 10G     | I/O | D28      |
| 1G      | I/O | D3     | 3L      | O   | READY  | 7L      | -   | VDD    | 10H     | I/O | D30      |
| 1H      | I/O | D1     | 4A      | I/O | D12    | 8A      | I/O | D18    | 10L     | I   | RESET IN |
| 1J      | -   | GND    | 4B      | -   | VDD    | 8B      | I/O | D17    | 11B     | I/O | D22      |
| 1K      | O   | PEREQ  | 4K      | I   | W/R    | 8K      | I   | READY  | 11C     | -   | GND      |
| 2A      | I/O | D9     | 4L      | I   | STEN   | 8L      | I   | CMD0   | 11D     | I/O | D25      |
| 2B      | -   | GND    | 5A      | I/O | D14    | 9A      | -   | VDD    | 11E     | I/O | D27      |
| 2C      | I/O | D6     | 5B      | I/O | D13    | 9B      | I/O | D19    | 11F     | -   | GND      |
| 2D      | I/O | D4     | 5K      | -   | VDD    | 9K      | -   | NC     | 11G     | I/O | D29      |
| 2E      | -   | GND    | 5L      | -   | GND    | 9L      | -   | VDD    | 11H     | I/O | D31      |
| 2F      | -   | GND    | 6A      | -   | VDD    | 10A     | I/O | D21    | 11J     | I   | CKM      |
| 2G      | I/O | D2     | 6B      | I/O | D15    | 10B     | I/O | D20    | 11K     | I   | NUMCLK2  |

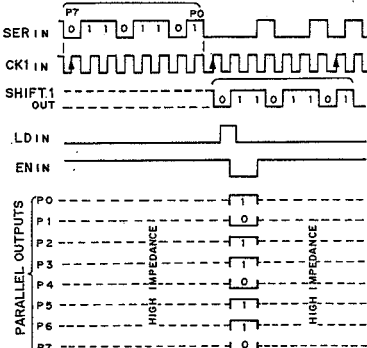
## CX20160 (SONY)

TTL OCTAL 3 OR 4 STAGE SHIFT REGISTER  
- TOP VIEW -3/4: TOTAL STAGE SELECTION SIGNAL INPUT  
H: 4 STAGES, L: 3 STAGES

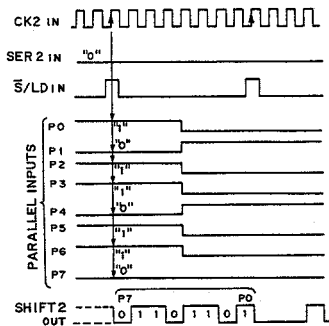
## CX23024 (SONY)

N-MOS 8-BIT SERIAL TO/FROM PARALLEL SHIFT REGISTER  
- TOP VIEW -

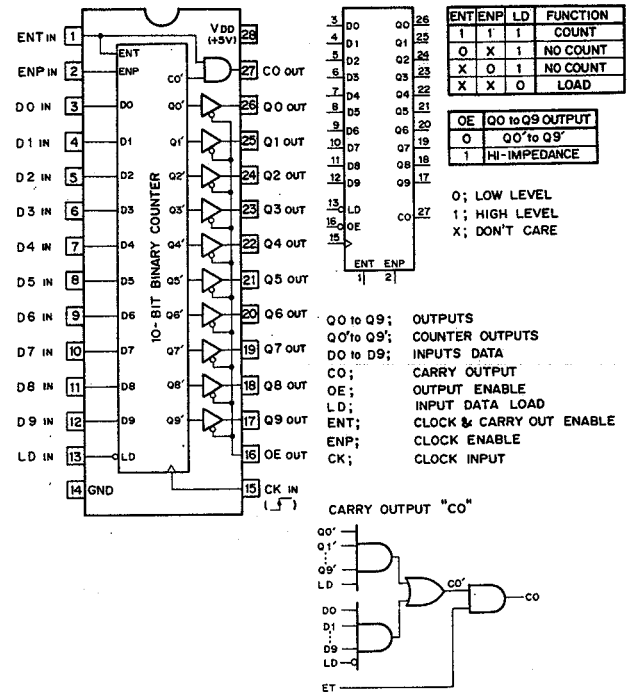
## SERIAL → PARALLEL



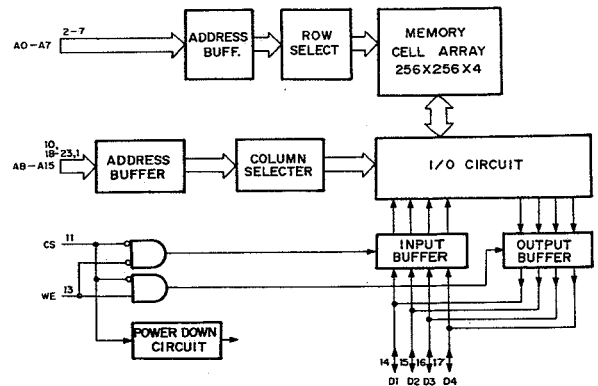
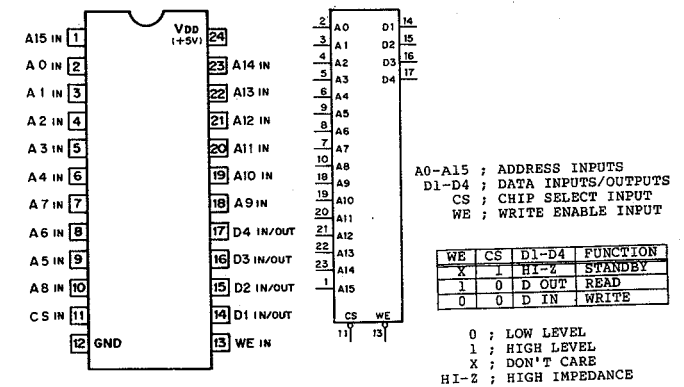
## PARALLEL → SERIAL



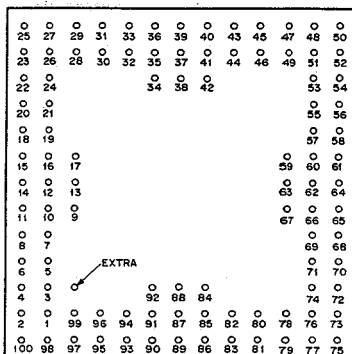
## CX23043 (SONY)

N-MOS SYNCHRONOUS 10-BIT BINARY COUNTER  
- TOP VIEW -

## CXK54256P-45 (SONY) (ACCESS TIME = 45ns)

C-MOS 256K(65536x4)-BIT STATIC RAM  
- TOP VIEW -

## CXD8040G (SONY)

4-POINT INTERPOLATOR  
- BOTTOM VIEW -

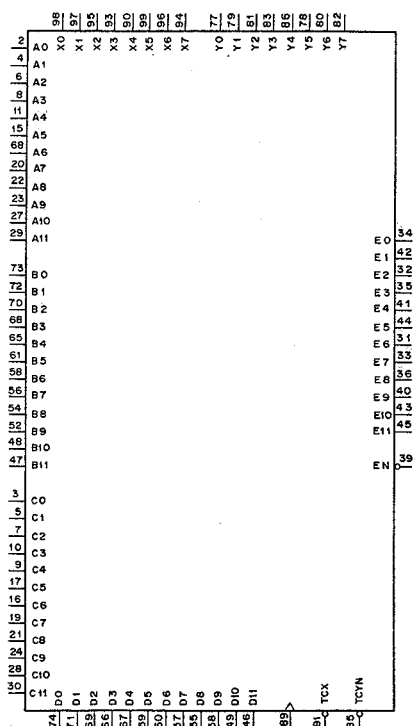
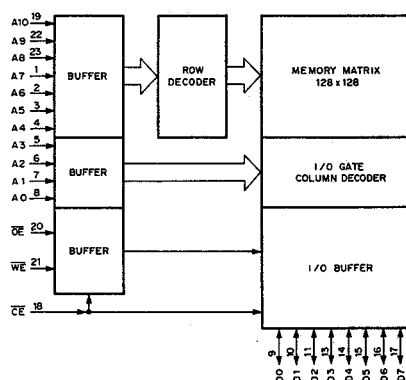
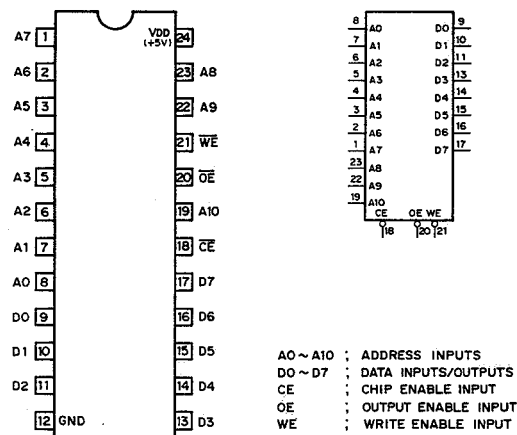
INPUT  
A-A11 : DATA INPUT A  
B0-B11 : DATA INPUT B  
C0-C11 : DATA INPUT C  
D0-D11 : DATA INPUT D  
CK : CLOCK INPUT  
TCX : TEST MODE X  
(L: TEST MODE)  
TCYN : TEST MODE Y  
(L: TEST MODE)  
X0-X7 : INTERPOLATION  
COEFFICIENT INPUT X  
Y0-Y7 : INTERPOLATION  
COEFFICIENT INPUT Y

OUTPUT  
E0-E11 : DATA OUTPUTS  
EN : OUTPUT ENABLE  
(L: ENABLE)

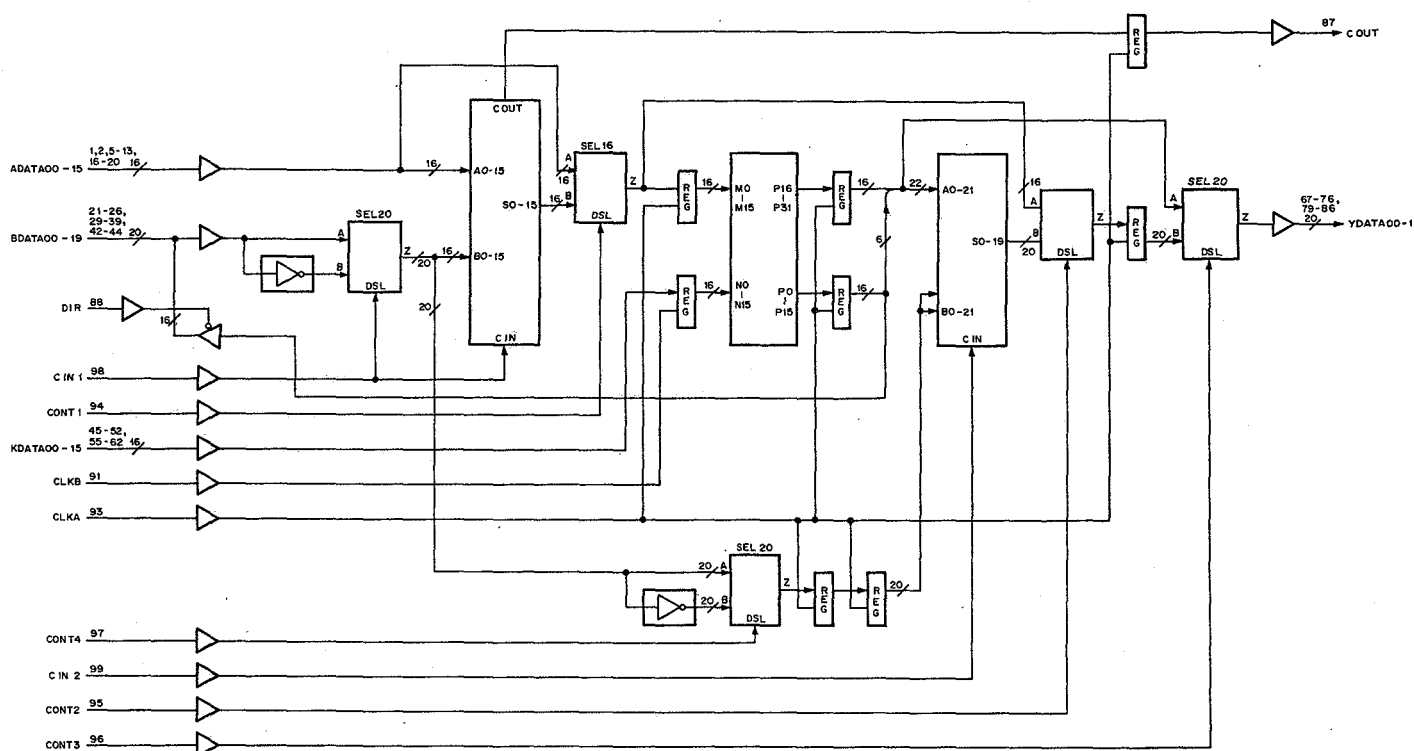
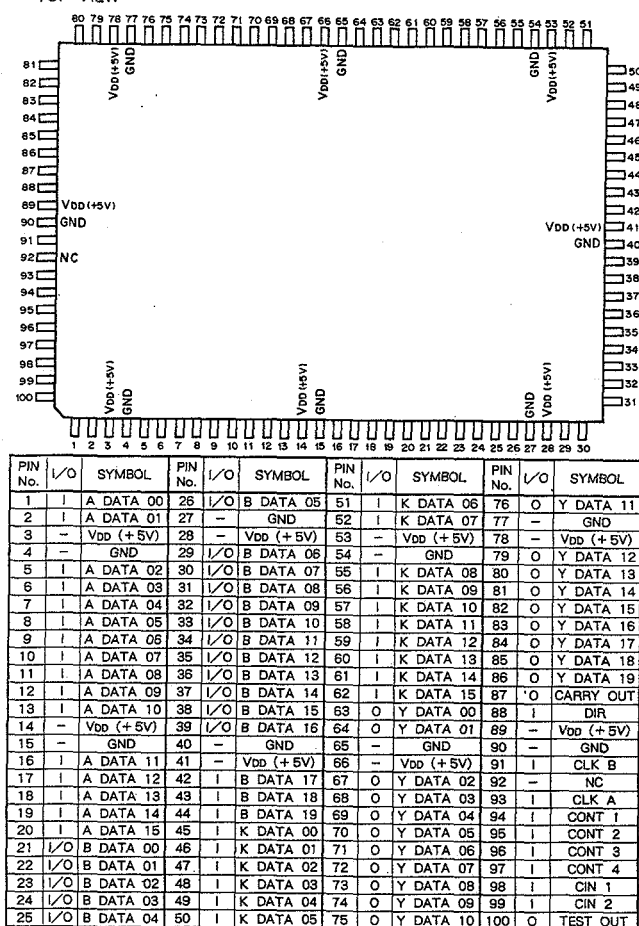
(V<sub>DD</sub> = +3V to +6V)

| PIN No. | I/O | SIGNAL          | PIN No. | I/O | SIGNAL          | PIN No. | I/O | SIGNAL          | PIN No. | I/O | SIGNAL          |
|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|---------|-----|-----------------|
| 1       | -   | GND             | 26      | -   | GND             | 51      | -   | V <sub>DD</sub> | 76      | -   | V <sub>DD</sub> |
| 2       | I   | A0              | 27      | I   | A10             | 52      | I   | B9              | 77      | I   | Y0              |
| 3       | I   | C0              | 28      | I   | C10             | 53      | I   | D9              | 78      | I   | Y5              |
| 4       | I   | A1              | 29      | I   | A11             | 54      | I   | B8              | 79      | I   | Y1              |
| 5       | I   | C1              | 30      | I   | C11             | 55      | I   | D8              | 80      | I   | Y6              |
| 6       | I   | A2              | 31      | O   | E6              | 56      | I   | B7              | 81      | I   | Y2              |
| 7       | I   | C2              | 32      | O   | E2              | 57      | I   | D7              | 82      | I   | Y7              |
| 8       | I   | A3              | 33      | O   | E7              | 58      | I   | B6              | 83      | I   | Y3              |
| 9       | I   | C4              | 34      | O   | E0              | 59      | I   | D5              | 84      | -   | TS OUT          |
| 10      | I   | C3              | 35      | O   | E3              | 60      | I   | D6              | 85      | I   | TCYN            |
| 11      | I   | A4              | 36      | O   | E8              | 61      | I   | B5              | 86      | I   | Y4              |
| 12      | -   | V <sub>DD</sub> | 37      | -   | GND             | 62      | -   | GND             | 87      | -   | V <sub>DD</sub> |
| 13      | -   | GND             | 38      | -   | V <sub>DD</sub> | 63      | -   | GND             | 88      | -   | GND             |
| 14      | -   | GND             | 39      | O   | EN              | 64      | -   | V <sub>DD</sub> | 89      | I   | CK              |
| 15      | I   | A5              | 40      | O   | E9              | 65      | I   | B4              | 90      | I   | X4              |
| 16      | I   | C6              | 41      | O   | E4              | 66      | I   | D9              | 91      | I   | TCX             |
| 17      | I   | C5              | 42      | O   | E1              | 67      | I   | D4              | 92      | -   | GND             |
| 18      | I   | A6              | 43      | O   | E10             | 68      | I   | B3              | 93      | I   | X3              |
| 19      | I   | C7              | 44      | O   | E5              | 69      | I   | D2              | 94      | I   | X2              |
| 20      | I   | A7              | 45      | O   | E11             | 70      | I   | B2              | 95      | I   | X1              |
| 21      | I   | C8              | 46      | I   | D11             | 71      | I   | D1              | 96      | I   | X5              |
| 22      | I   | A8              | 47      | I   | B11             | 72      | I   | B1              | 97      | I   | X0              |
| 23      | I   | A9              | 48      | I   | B10             | 73      | I   | B0              | 98      | I   | X0              |
| 24      | I   | C9              | 49      | I   | D10             | 74      | I   | D0              | 99      | I   | X5              |
| 25      | -   | V <sub>DD</sub> | 50      | -   | GND             | 75      | -   | GND             | 100     | -   | V <sub>DD</sub> |

## CXK5814P-35 (SONY) (ACCESS TIME = 35nS)

C-MOS 16K (2Kx8) STATIC RAM  
- TOP VIEW -

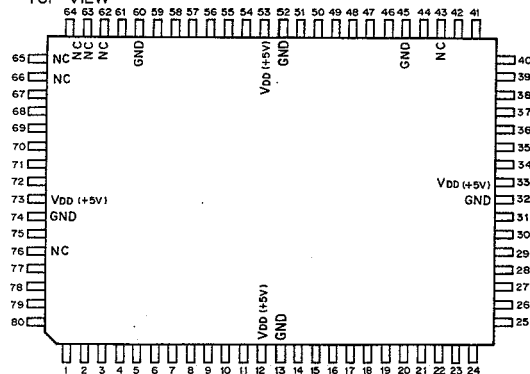
CXD8156Q (SONY)  
16-BIT ADDER MULTIPLIER  
- TOP VIEW -



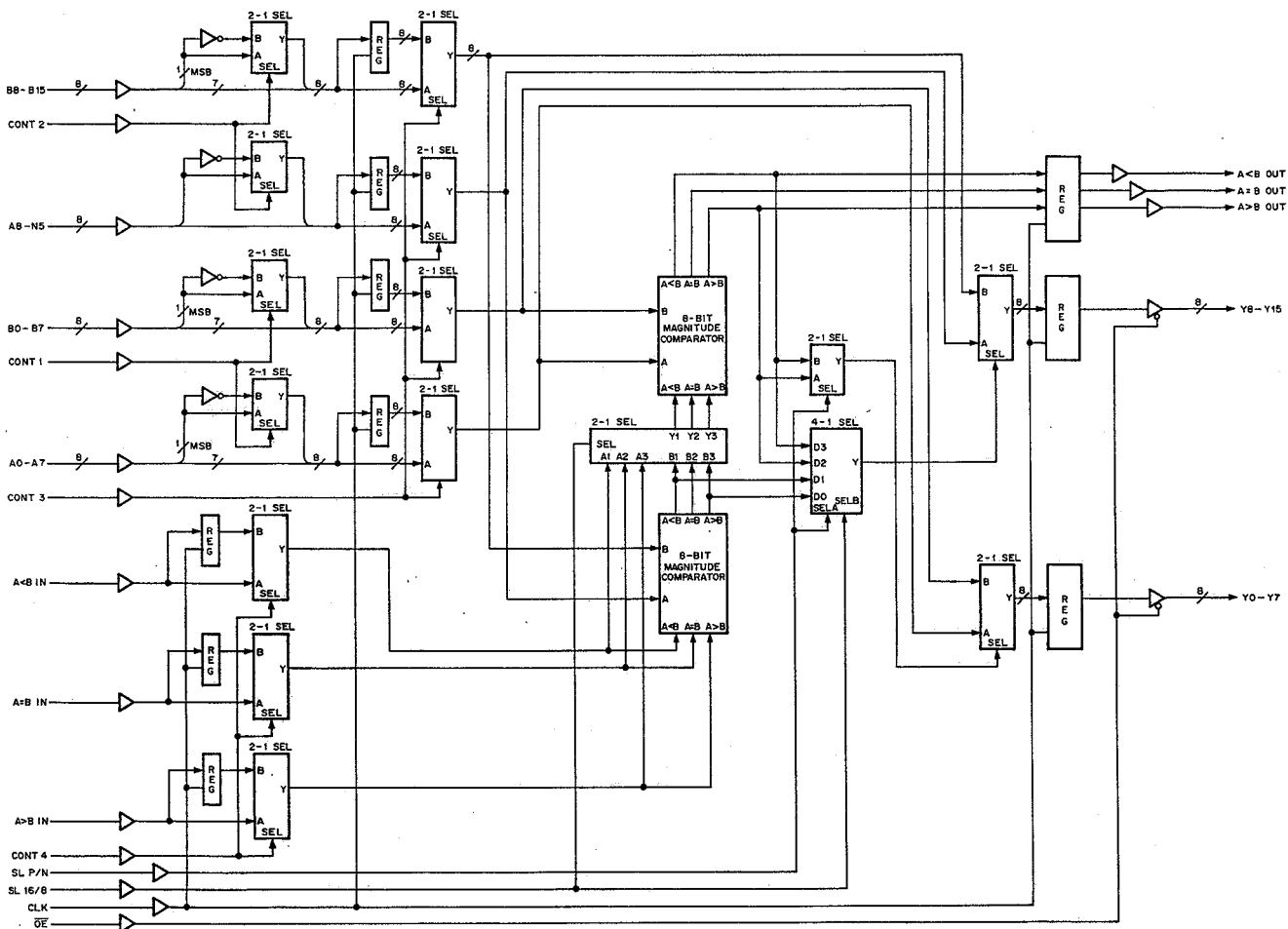
CXD8157Q (SONY)

HC-MOS 16-BIT NON ADDITIVE MIX

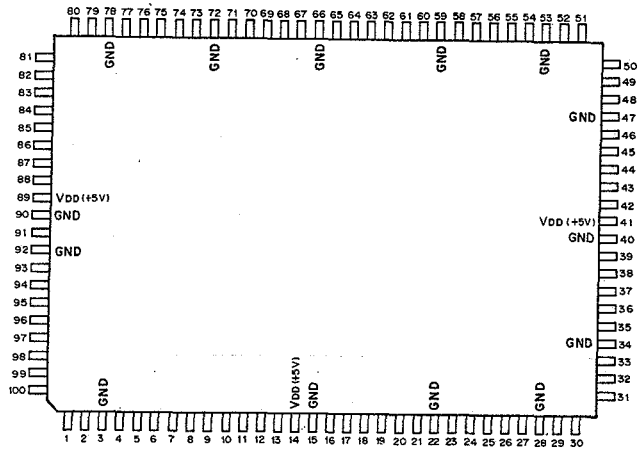
- TOP VIEW -



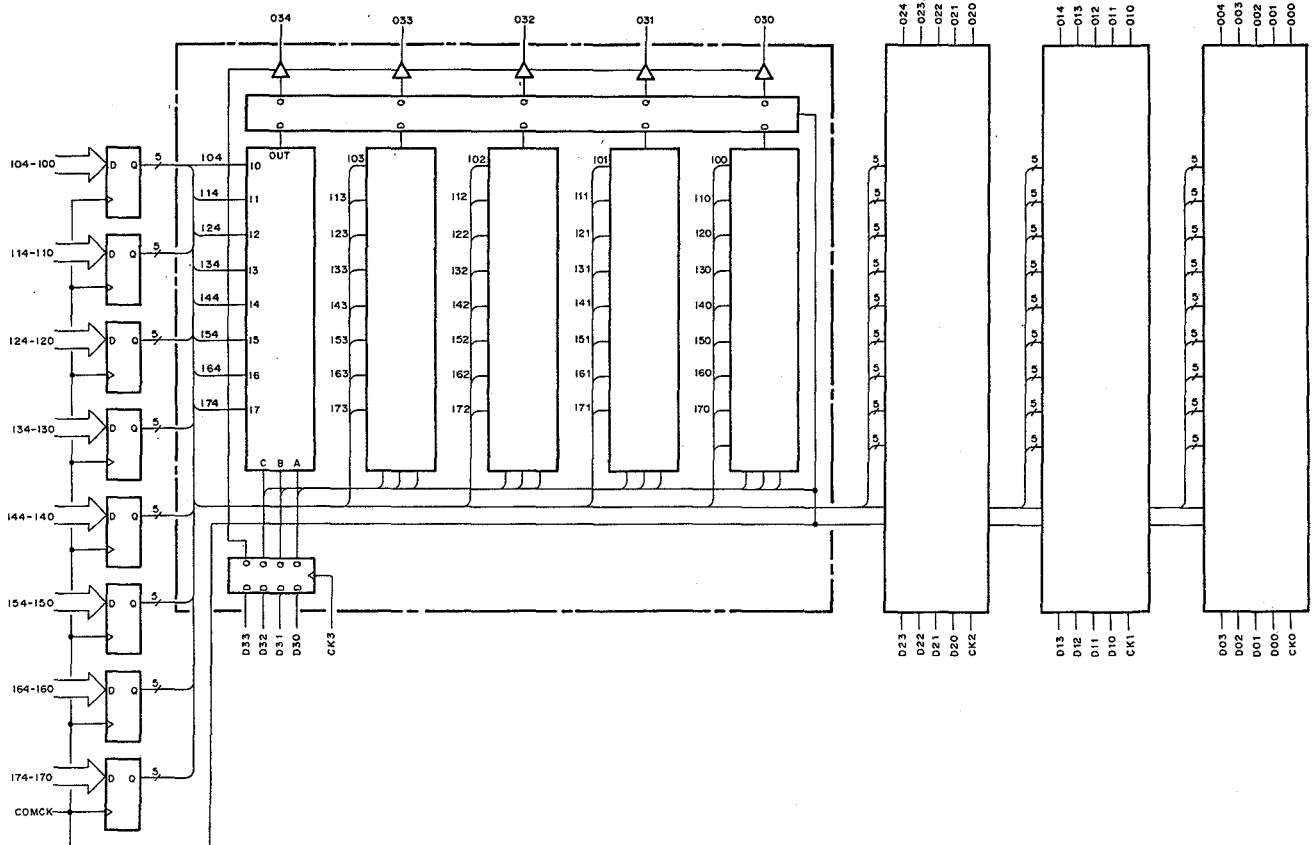
| PIN No. | I/O | SYMBOL    | PIN No. | I/O | SYMBOL    | PIN No. | I/O | SYMBOL    | PIN No. | I/O | SYMBOL    |
|---------|-----|-----------|---------|-----|-----------|---------|-----|-----------|---------|-----|-----------|
| 1       | I   | CONT 03   | 21      | I   | A DATA 15 | 41      | O   | Y DATA 14 | 61      | I   | OE        |
| 2       | I   | CONT 02   | 22      | I   | B DATA 00 | 42      | O   | Y DATA 13 | 62      | -   | NC        |
| 3       | I   | CONT 01   | 23      | I   | B DATA 01 | 43      | -   | NC        | 63      | -   | NC        |
| 4       | I   | A DATA 00 | 24      | I   | B DATA 02 | 44      | O   | Y DATA 12 | 64      | -   | NC        |
| 5       | I   | A DATA 01 | 25      | I   | B DATA 03 | 45      | -   | GND       | 65      | -   | NC        |
| 6       | I   | A DATA 02 | 26      | I   | B DATA 04 | 46      | O   | Y DATA 11 | 66      | -   | NC        |
| 7       | I   | A DATA 03 | 27      | I   | B DATA 05 | 47      | O   | Y DATA 10 | 67      | I   | SL16B     |
| 8       | I   | A DATA 04 | 28      | I   | B DATA 06 | 48      | O   | Y DATA 09 | 68      | I   | SLPN      |
| 9       | I   | A DATA 05 | 29      | I   | B DATA 07 | 49      | O   | Y DATA 08 | 69      | O   | AEBOUT    |
| 10      | I   | A DATA 06 | 30      | I   | B DATA 08 | 50      | O   | Y DATA 07 | 70      | O   | ALBOUT    |
| 11      | I   | A DATA 07 | 31      | I   | B DATA 09 | 51      | O   | Y DATA 06 | 71      | O   | AGBOUT    |
| 12      | -   | VDD (+5V) | 32      | -   | GND       | 52      | -   | GND       | 72      | O   | TESTOUT   |
| 13      | -   | GND       | 33      | -   | VDD (+5V) | 53      | -   | VDD (+5V) | 73      | -   | VDD (+5V) |
| 14      | I   | A DATA 08 | 34      | I   | B DATA 10 | 54      | O   | Y DATA 05 | 74      | -   | GND       |
| 15      | I   | A DATA 09 | 35      | I   | B DATA 11 | 55      | O   | Y DATA 04 | 75      | I   | CLK       |
| 16      | I   | A DATA 10 | 36      | I   | B DATA 12 | 56      | O   | Y DATA 03 | 76      | -   | NC        |
| 17      | I   | A DATA 11 | 37      | I   | B DATA 13 | 57      | O   | Y DATA 02 | 77      | I   | AEBIN     |
| 18      | I   | A DATA 12 | 38      | I   | B DATA 14 | 58      | O   | Y DATA 01 | 78      | I   | ALBIN     |
| 19      | I   | A DATA 13 | 39      | I   | B DATA 15 | 59      | O   | Y DATA 00 | 79      | I   | AGBIN     |
| 20      | I   | A DATA 14 | 40      | O   | Y DATA 15 | 60      | -   | GND       | 80      | I   | CONT 04   |



CXD8158Q (SONY)

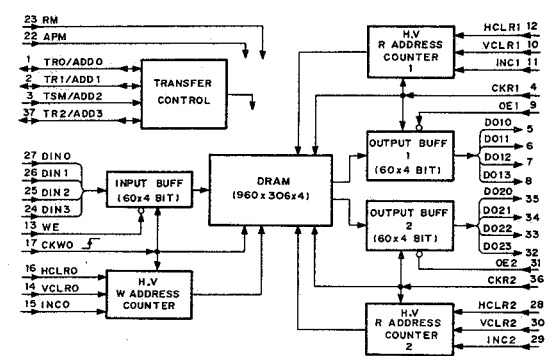
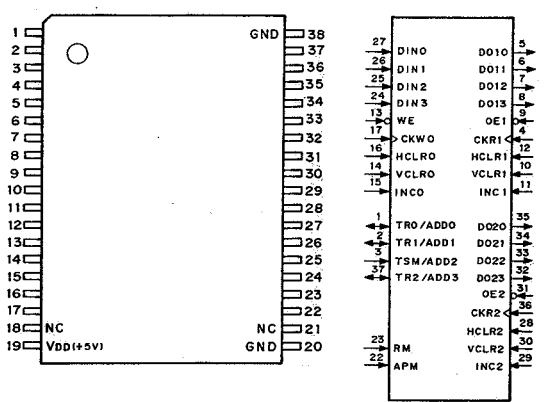
HC-MOS 5-BIT SLICE 8x4 MATRIX SWITCH  
- TOP VIEW -

| PIN No. | I/O | SYMBOL    | PIN No. | I/O | SYMBOL    | PIN No. | I/O | SYMBOL    | PIN No. | I/O | SYMBOL    |
|---------|-----|-----------|---------|-----|-----------|---------|-----|-----------|---------|-----|-----------|
| 1       | O   | O03       | 26      | I   | I13       | 51      | I   | I33       | 76      | O   | O13       |
| 2       | O   | O04       | 27      | I   | I14       | 52      | I   | I34       | 77      | O   | O14       |
| 3       | -   | GND       | 28      | -   | GND       | 53      | -   | GND       | 78      | -   | GND       |
| 4       | I   | CK3       | 29      | I   | I20       | 54      | I   | I40       | 79      | I   | I50       |
| 5       | I   | D30       | 30      | I   | I21       | 55      | I   | I41       | 80      | I   | I61       |
| 6       | I   | D31       | 31      | I   | I22       | 56      | I   | I42       | 81      | I   | I62       |
| 7       | I   | D32       | 32      | I   | I23       | 57      | I   | I43       | 82      | I   | I63       |
| 8       | I   | D33       | 33      | I   | I24       | 58      | I   | I44       | 83      | I   | I64       |
| 9       | O   | O30       | 34      | -   | GND       | 59      | -   | GND       | 84      | I   | I70       |
| 10      | O   | O31       | 35      | I   | CK2       | 60      | I   | I50       | 85      | I   | I71       |
| 11      | O   | O32       | 36      | I   | D20       | 61      | I   | I51       | 86      | I   | I72       |
| 12      | O   | O33       | 37      | I   | D21       | 62      | I   | I52       | 87      | I   | I73       |
| 13      | O   | O34       | 38      | I   | D22       | 63      | I   | I53       | 88      | I   | I74       |
| 14      | -   | VDD (+5V) | 39      | I   | D23       | 64      | I   | I54       | 89      | -   | VDD (+5V) |
| 15      | -   | GND       | 40      | -   | GND       | 65      | I   | CK1       | 90      | -   | GND       |
| 16      | I   | I00       | 41      | -   | VDD (+5V) | 66      | -   | GND       | 91      | I   | COMCLK    |
| 17      | I   | I01       | 42      | O   | O20       | 67      | -   | VDD (+5V) | 92      | -   | GND       |
| 18      | I   | I02       | 43      | O   | O21       | 68      | I   | D10       | 93      | I   | CK0       |
| 19      | I   | I03       | 44      | O   | O22       | 69      | I   | D11       | 94      | I   | D00       |
| 20      | I   | I04       | 45      | O   | O23       | 70      | I   | D12       | 95      | I   | D01       |
| 21      | O   | TSOUT     | 46      | O   | O24       | 71      | I   | D13       | 96      | I   | D02       |
| 22      | -   | GND       | 47      | -   | GND       | 72      | -   | VSS       | 97      | I   | D03       |
| 23      | I   | I10       | 48      | I   | I30       | 73      | O   | O10       | 98      | O   | O00       |
| 24      | I   | I11       | 49      | I   | I31       | 74      | O   | O11       | 99      | O   | O01       |
| 25      | I   | I12       | 50      | I   | I32       | 75      | O   | O12       | 100     | O   | O02       |





**CXK1206M (SONY) FLAT PACKAGE**  
**C-MOS VIDEO FIELD MEMORY (960-COLUMNx306-ROWx4-BIT)**  
**- TOP VIEW -**

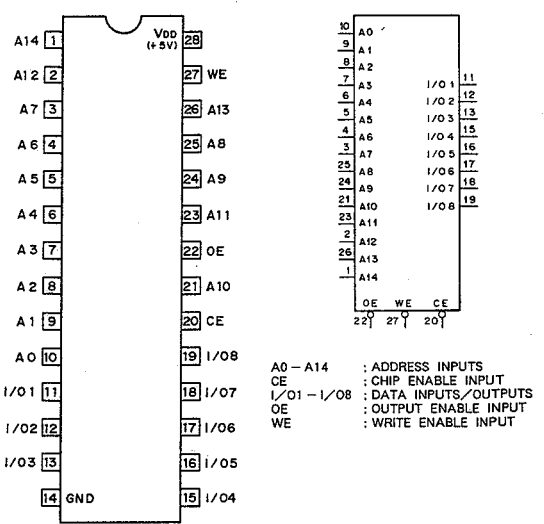


| PIN | SIGNAL   | DESCRIPTION                                 |
|-----|----------|---|
| 1   | TR0/ADD0 | W PORT 0 TRANSFER SYNC I/O, ADDRESS 0 INPUT |
| 2   | TR1/ADD1 | R PORT 1 TRANSFER SYNC I/O, ADDRESS 1 INPUT |
| 3   | TSM/ADD2 | TRANSFER SYNCHRONOUS MODE, ADDRESS 2 INPUT  |
| 4   | CKR1     | R PORT 1 SHIFT SIGNAL INPUT                 |
| 5   | DO10     | R PORT 1 DATA 0 OUTPUT                      |
| 6   | DO11     | R PORT 1 DATA 1 OUTPUT                      |
| 7   | DO12     | R PORT 1 DATA 2 OUTPUT                      |
| 8   | DO13     | R PORT 1 DATA 3 OUTPUT                      |
| 9   | OE1      | R PORT 1 OUTPUT ENABLE INPUT                |
| 10  | VCLR1    | R PORT 1 VERTICAL CLEAR INPUT               |
| 11  | INC1     | R PORT 1 LINE INCREMENT INPUT               |
| 12  | HCLR1    | R PORT 1 HORIZONTAL CLEAR INPUT             |
| 13  | WE       | W PORT 0 WRITE ENABLE INPUT                 |
| 14  | VCLR0    | W PORT 0 VERTICAL CLEAR INPUT               |
| 15  | INC0     | W PORT 0 LINE INCREMENT INPUT               |
| 16  | HCLR0    | W PORT 0 HORIZONTAL CLEAR INPUT             |
| 17  | CKW0     | W PORT 0 SHIFT SIGNAL INPUT                 |
| 18  | NC       | (no connection)                             |
| 19  | VDD      | +5V INPUT                                   |
| 20  | GND      | GND   |
| 21  | NC       | (no connection)                             |
| 22  | APM      | ADDRESS PRESET MODE INPUT                   |
| 23  | RM       | RECURSIVE MODE ENABLE INPUT                 |
| 24  | DIN3     | W PORT 0 DATA 3 INPUT                       |
| 25  | DIN2     | W PORT 0 DATA 2 INPUT                       |
| 26  | DIN1     | W PORT 0 DATA 1 INPUT                       |
| 27  | DINO     | W PORT 0 DATA 0 INPUT                       |
| 28  | HCLR2    | R PORT 2 HORIZONTAL CLEAR INPUT             |
| 29  | INC2     | R PORT 2 LINE INCREMENT INPUT               |
| 30  | VCLR2    | R PORT 2 VERTICAL CLEAR INPUT               |
| 31  | OE2      | R PORT 2 OUTPUT ENABLE INPUT                |
| 32  | DO23     | R PORT 2 DATA 3 OUTPUT                      |
| 33  | DO22     | R PORT 2 DATA 2 OUTPUT                      |
| 34  | DO21     | R PORT 2 DATA 1 OUTPUT                      |
| 35  | DO20     | R PORT 2 DATA 0 OUTPUT                      |
| 36  | CKR2     | R PORT 2 SHIFT SIGNAL INPUT                 |
| 37  | TR2/ADD3 | R PORT 2 TRANSFER SYNC I/O, ADDRESS 3 INPUT |
| 38  | GND      | GND   |

| MODE SELECTION |     |            |                   |  |
|----------------|-----|------------|-------------------|--|
| CONTROL INPUTS |     | TS, TR/ADD |                   | MODE   |
| RM             | APM | TSM        | TR 0-2<br>ADD 0-3 |  |
| 0              | 0   | 0          | OUT PUT           | NON RECURSIVE MODE, TRANSFER SYNCHRONOUS MODE OUTPUT |
| 0              | 0   | 1          | IN-PUT            | NON RECURSIVE MODE, TRANSFER SYNCHRONOUS MODE INPUT  |
| 0              | 1   | -          | - IN-PUT          | NON RECURSIVE MODE, ADDRESS PRESET MODE              |
| 1              | 0   | 0          | OUT PUT           | RECURSIVE MODE, TRANSFER SYNCHRONOUS MODE OUTPUT     |
| 1              | 0   | 1          | IN-PUT            | RECURSIVE MODE, TRANSFER SYNCHRONOUS MODE INPUT      |

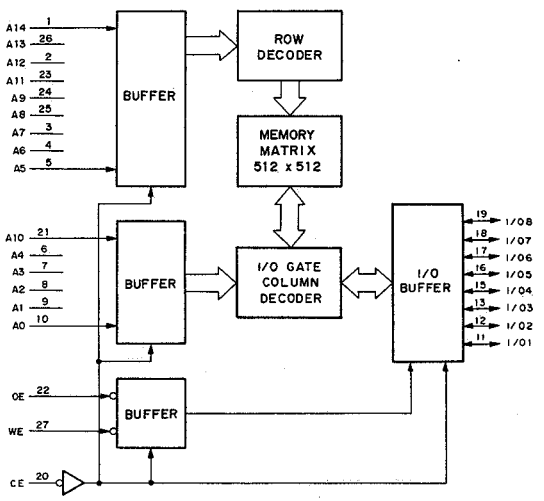
0:LOW LEVEL 1:HIGH LEVEL

**CXK58257P-10LL (SONY) (ACCESS TIME = 100ns)**  
**C-MOS 256K(32768x8)-BIT STATIC RAM**  
**- TOP VIEW -**

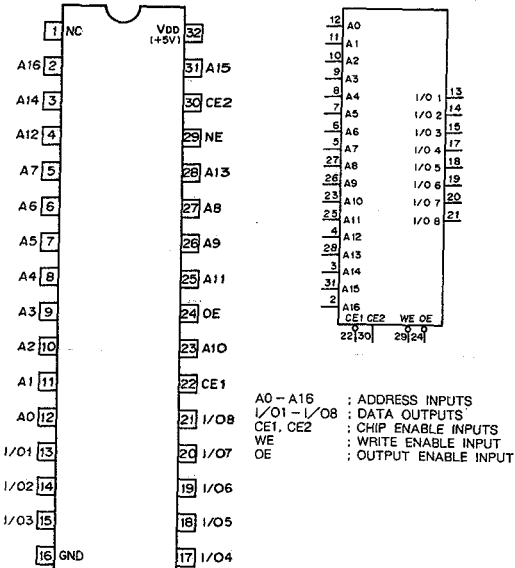


| CE | OE | WE | MODE           | I/O TERMINAL   |
|----|----|----|----------------|----------------|
| 1  | X  | X  | NOT SELECT     | HIGH IMPEDANCE |
| 0  | 1  | 1  | OUTPUT DISABLE | HIGH IMPEDANCE |
| 0  | 0  | 1  | READ           | OUTPUT DATA    |
| 0  | X  | 0  | WRITE          | INPUT DATA     |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE



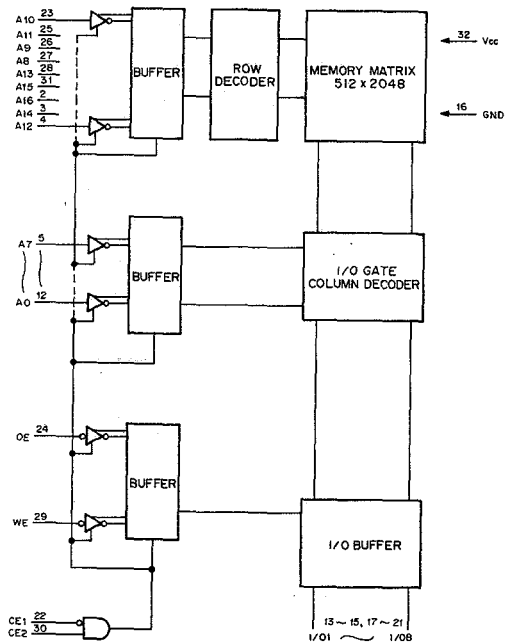
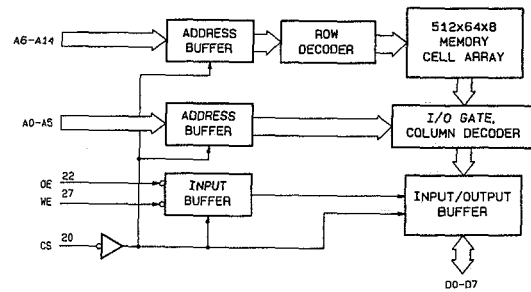
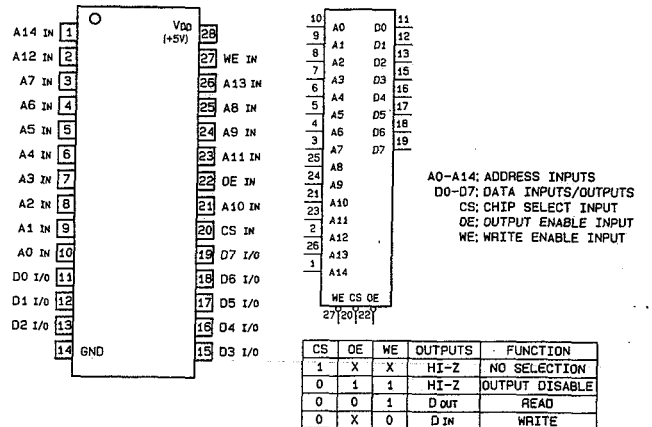
## CXK581000P-10L (SONY)

C-MOS 131072-WORDx8-BIT HIGH SPEED STATIC RAM  
- TOP VIEW -

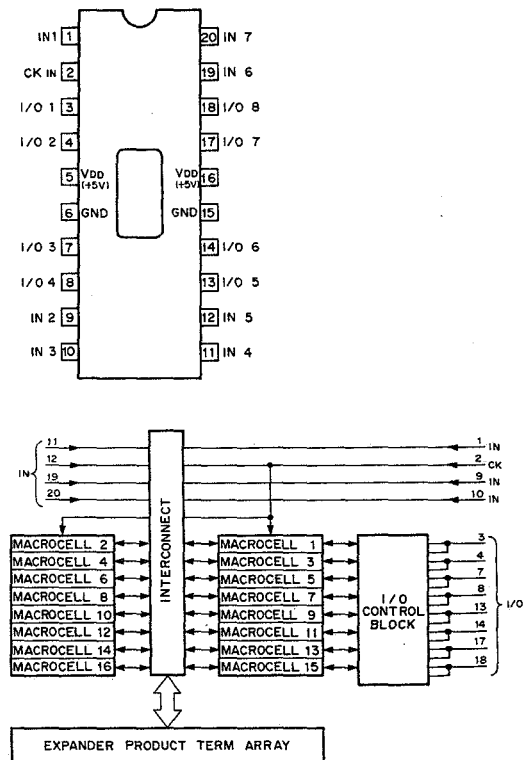
| CE1 | CE2 | OE | WE | MODE           | I/O TERMINAL   |
|-----|-----|----|----|----------------|----------------|
| 1   | X   | X  | X  | NOT SELECT     | HIGH IMPEDANCE |
| X   | 0   | X  | X  | NOT SELECT     | HIGH IMPEDANCE |
| 0   | 1   | 1  | 1  | OUTPUT DISABLE | HIGH IMPEDANCE |
| 0   | 1   | 0  | 1  | READ           | DATA OUTPUT    |
| 0   | 1   | X  | 0  | WRITE          | DATA INPUT     |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

## CXK58258SP-35 (SONY) (ACCESS TIME = 35ns)

C-MOS 256K(32768x8)-BIT STATIC RAM  
- TOP VIEW -

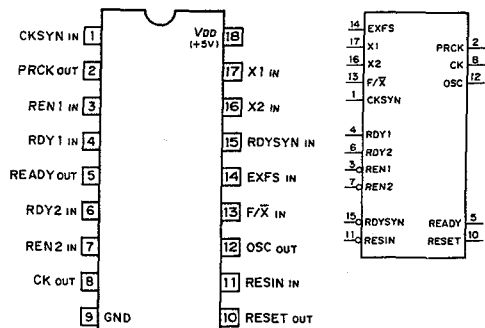
## EPM5016-1 (ALTERA)

C-MOS UV ERASABLE PROGRAMMABLE LOGIC DEVICE  
- TOP VIEW -

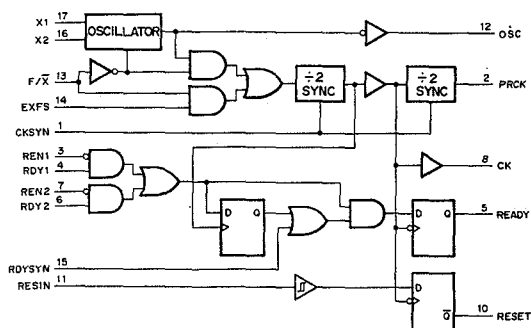
X ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.



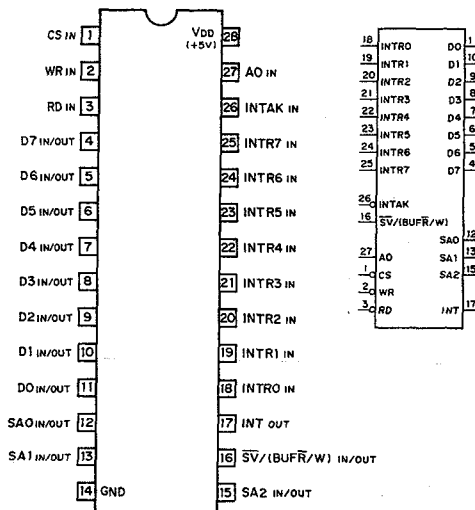
## CXQ71011P (SONY)

C-MOS CLOCK PULSE GENERATOR/DRIVER  
- TOP VIEW -

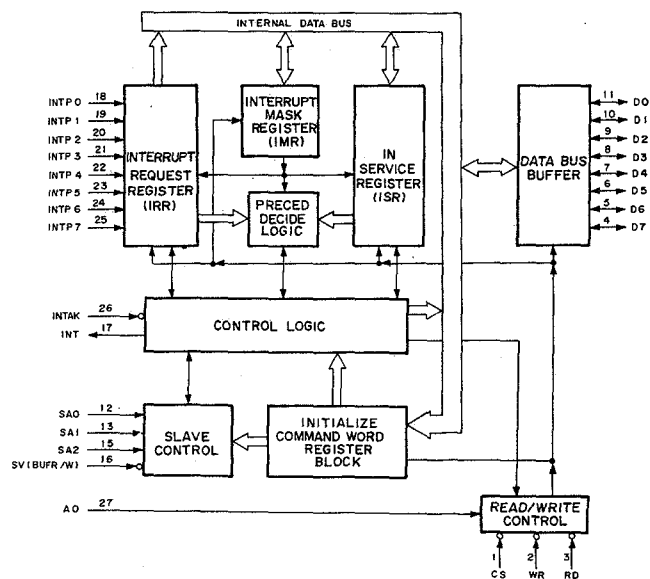
X1, X2; CRYSTAL INPUT  
EXFS; EXTERNAL FREQUENCY SOURCE INPUT  
F/X; FREQUENCY/CRYSTAL SELECT INPUT  
CK; PROCESSOR CLOCK OUTPUT  
PRCK; PERIPHERAL CLOCK OUTPUT  
OSC; OSCILLATOR OUTPUT  
CKSYN; CLOCK SYNCHRONIZATION INPUT  
RESIN; RESET INPUT  
RDY1, RDY2; BUS READY INPUT  
REN1, REN2; READY ENABLE INPUT  
RDYSYN; READY SYNCHRONIZATION SELECT INPUT



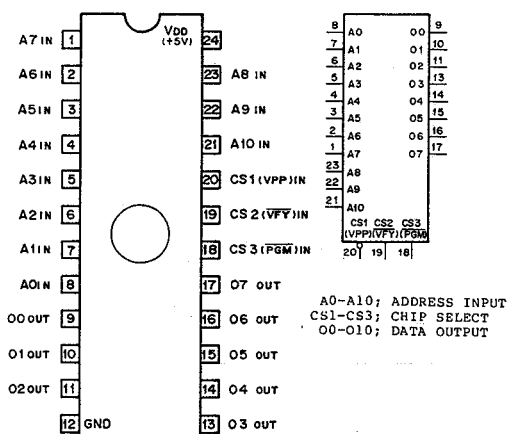
## CXQ71059P (SONY)

C-MOS INTERRUPT CONTROL UNIT  
- TOP VIEW -

INTRO-INTR7; INTERRUPT REQUEST INPUTS  
DO-D7; DATA BUS INPUTS/OUTPUTS  
CS; CHIP SELECT INPUT  
RD; READ STROBE INPUT  
WR; WRITE STROBE INPUT  
AO; ADDRESS INPUT  
INT; INTERRUPT OUTPUT  
INTAK; INTERRUPT ACKNOWLEDGE INPUT  
SV/(BUIR/W); SLAVE/BUFFER READ/WRITE INPUT/OUTPUT  
SA0-SA2; SLAVE ADDRESS INPUTS/OUTPUTS



CY7C291L-35PC (CYPRESS)  
C-MOS 16K(2048x8)-BIT EPROM  
- TOP VIEW -

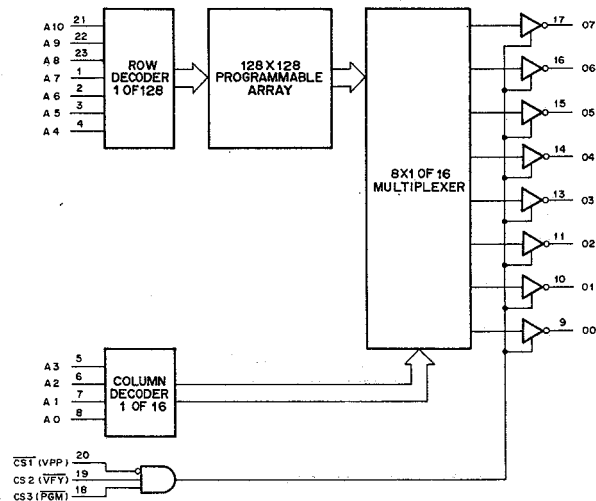


| MODE SELECTION |     |     |          |                     |
|----------------|-----|-----|----------|---------------------|
| CS1            | CS2 | CS3 | OUTPUTS  | MODE                |
| 0              | 1   | 1   | DATA OUT | READ                |
| 1              | X   | X   | HI-Z     | OUTPUT DISABLE      |
| X              | 0   | X   | HI-Z     | OUTPUT DISABLE      |
| X              | X   | 0   | HI-Z     | OUTPUT DISABLE      |
| VPP            | 1   | 0   | DATA IN  | PROGRAM             |
| VPP            | 0   | 1   | DATA OUT | PROGRAM VERIFY      |
| VPP            | 1   | 1   | HI-Z     | PROGRAM INHIBIT     |
| VPP            | 1   | 0   | DATA IN  | INTELLIGENT PROGRAM |
| 0              | 0   | VPP | ONES     | BLANK CHECK ONES    |
| 0              | 1   | VPP | ZEROS    | BLANK CHECK ZEROS   |

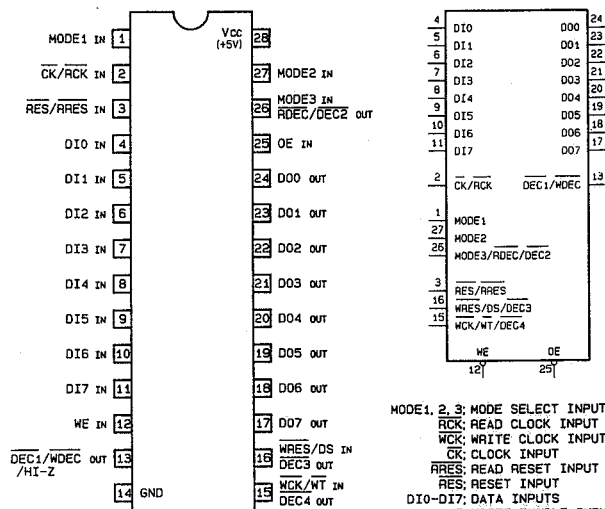
```

0; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE
    (NOT TO EXCEED VDD +5%)
HI-Z; HIGH IMPEDANCE
VPP; PROGRAMING VOLTAGE
    (+13V to +14V)

```



HM63021P-28 (HITACHI) (ACCESS TIME = 28nS)  
2048 WORDx8-BIT LINE MEMORY  
- TOP VIEW -



| MODE1 | MODE2 | MODE3 | MODE                                |
|-------|-------|-------|-------------------------------------|
| 1     | 1     | 1     | TIME BASE COMPRESSING<br>/EXPANDING |
| 1     | 1     | 0     | DOUBLE SPEED EXCHANGE               |
| 1     | 0     | *     | TBC                                 |
| 0     | 1     | *     | 1H/2H DELAY                         |
| 0     | 0     | *     | DELAY TIME                          |

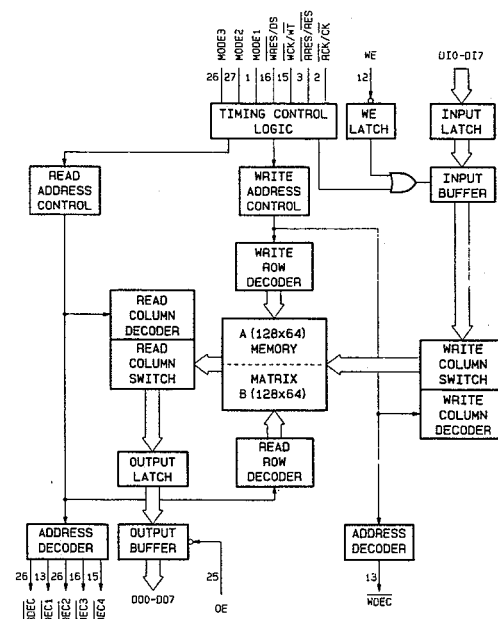
|    |                   |
|----|-------------------|
| 0: | LOW LEVEL         |
| 1: | HIGH LEVEL        |
| *  | DEC OUTPUT SIGNAL |

```

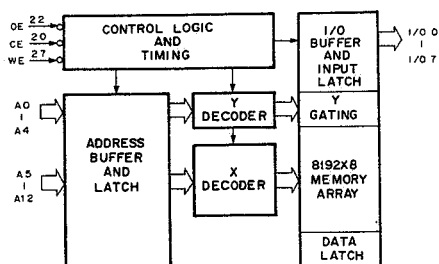
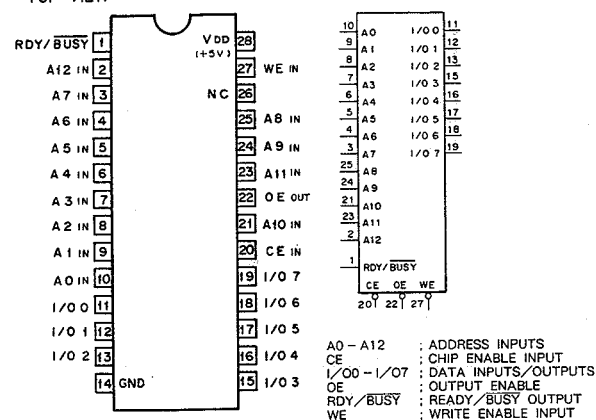
MODE1, 2, 3: MODE SELECT INPUTS
  RCK: READ CLOCK INPUT
  WCK: WRITE CLOCK INPUT
  CK: CLOCK INPUT
  RES: READ RESET INPUT
  RES: RESET INPUT
DIO-D17: DATA INPUTS
  WE: WRITE ENABLE INPUT
  HI-Z: HIGH IMPEDANCE
  WT: WRITE TIMING INPUT
DEC1, 2, 3, 4: DECODE PULSE OUTPUTS
  WDEC: WRITE DECODE PULSE OUTPUT
  RDEC: READ DECODE PULSE OUTPUT
  DS: DELAY SELECT INPUT
D00-D07: DATA OUTPUTS
  OF: OUTPUT ENABLE INPUT

```

| PIN NO. | MODE                                   |                             |     |                |               |
|---------|--|-----------------------------|-----|----------------|---------------|
|         | TIME BASE<br>COMPRESSING<br>/EXPANDING | DOUBLE<br>SPEED<br>EXCHANGE | TBC | 1H/2H<br>DELAY | DELAY<br>LINE |
| 1       | MODE1                                  |                             |     |                |               |
| 2       | RCK                                    |                             |     | CK             |               |
| 3       | RRES                                   |                             |     | RES            |               |
| 4-11    | DIO-DI7                                |                             |     |                |               |
| 12      | WE                                     |                             |     |                |               |
| 13      | HI-Z                                   | WDEC                        |     | DEC1           |               |
| 15      | WCK                                    |                             |     | WT             | DEC4          |
| 16      | WRES                                   |                             |     | DS             | DEC3          |
| 17-24   | D00-D07                                |                             |     |                |               |
| 25      | OE                                     |                             |     |                |               |
| 26      | MODE3                                  | RDEC                        |     | DEC2           |               |
| 27      | MODE2                                  |                             |     |                |               |



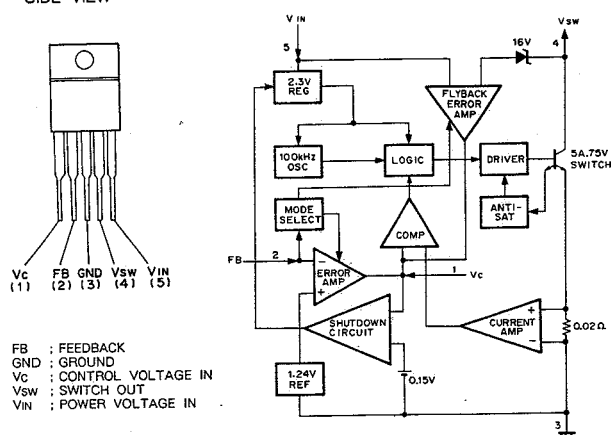
HN58C65P-25 (HITACHI)  
C-MOS 64K (8192x8)-BIT EEPROM  
- TOP VIEW -



| CE | OE | WE | RDY/BUSY   | I/O TERMINAL     | FUNCTION     |
|----|----|----|------------|------------------|--------------|
| 0  | 0  | 1  | HI-Z       | DOUT             | READ         |
| 1  | X  | X  | HI-Z       | HI-Z             | STANDBY      |
| 0  | 1  | 0  | HI-Z → LOW | DIN              | WRITE        |
| 0  | 1  | 1  | HI-Z       | HI-Z             | DESELECT     |
| X  | X  | 1  | HI-Z       | —                | WRITE INH    |
| X  | 0  | X  | HI-Z       | —                | WRITE INH    |
| 0  | 0  | 1  | LOW        | DATA OUT (I/O 7) | DATA POLLING |

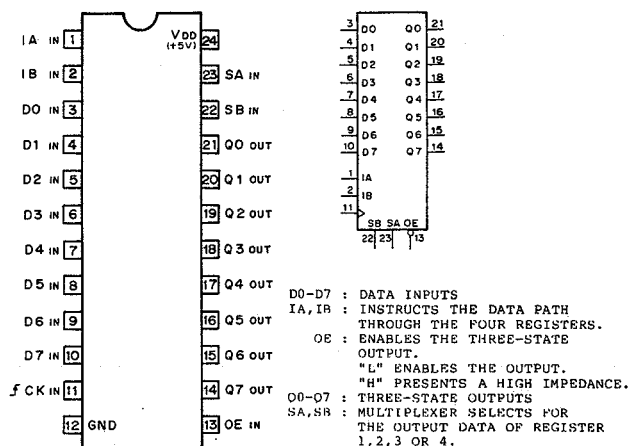
0 : LOW LEVEL  
1 : HIGH LEVEL  
X : DON'T CARE  
HI-Z : HIGH IMPEDANCE

LT1171CT (LINEAR TECHNOLOGY)  
SWITCHING REGULATORS (100kHz)  
- SIDE VIEW -



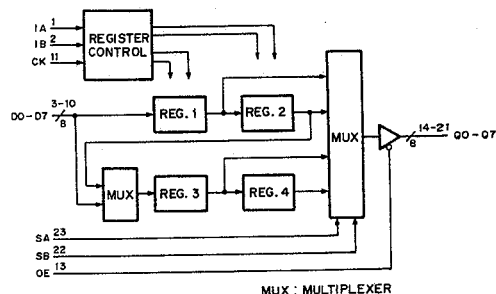
L29C520PC (LOGIC DEVICES)

C-MOS 8-BIT 2-OR 4-LEVEL PIPELINE REGISTER WITH 3-STATE OUTPUT  
- TOP VIEW -

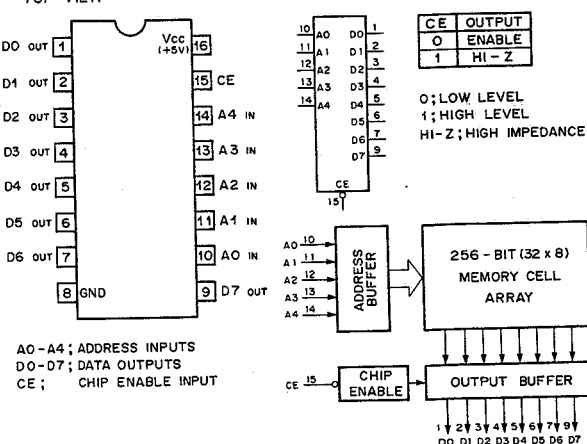


| IB IB | TRANSFER OF DATA               | SBSA | REGISTER SELECTED |
|-------|--------------------------------|------|-------------------|
| 0 0   | D → R1 R1 → R2 R2 → R3 R3 → R4 | 0 0  | REG. 4            |
| 0 1   | D → R3 R3 → R4 R1, R2 ON HOLD  | 0 1  | REG. 3            |
| 1 0   | D → R1 R1 → R2 R3, R4 ON HOLD  | 1 0  | REG. 2            |
| 1 1   | ALL REGISTERS ON HOLD          | 1 1  | REG. 1            |

0 : LOW LEVEL D : DATA INPUT  
1 : HIGH LEVEL R : REGISTER

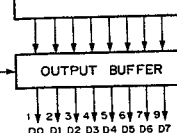


MB7112L (FUJITSU) (ACCESS TIME = 50ns)  
256-BIT (32x8) PROM WITH 3-STATE OUTPUT  
- TOP VIEW -



| CE | OUTPUT |
|----|--------|
| 0  | ENABLE |
| 1  | HI-Z   |

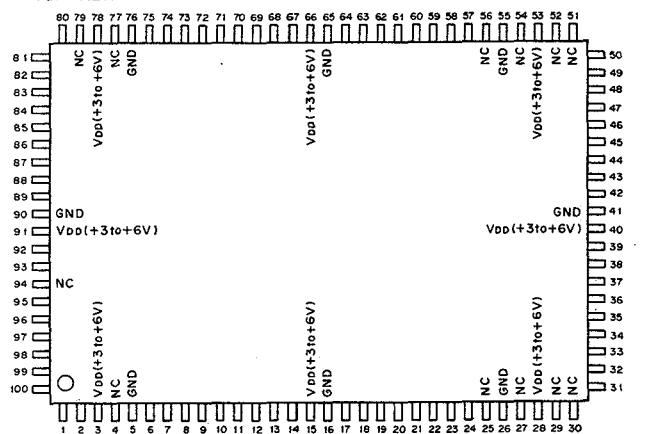
0 : LOW LEVEL  
1 : HIGH LEVEL  
HI-Z : HIGH IMPEDANCE



## LSP001AC-Q (LOGIC DEVICES)

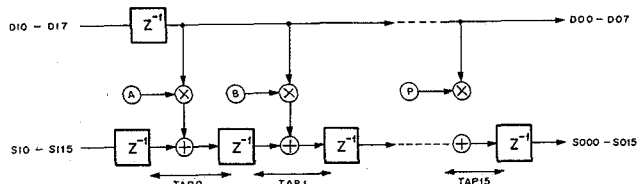
## VIDEO SIGNAL PROCESS DIGITAL FILTER

- TOP VIEW -



VDD = +3 to +6V

| PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL | PIN NO. | I/O | SYMBOL |
|---------|-----|--------|---------|-----|--------|---------|-----|--------|---------|-----|--------|
| 1       | I   | CS2    | 26      | -   | GND    | 51      | -   | NC     | 76      | -   | GND    |
| 2       | I   | WE     | 27      | -   | NC     | 52      | -   | NC     | 77      | -   | NC     |
| 3       | I   | VDD    | 28      | -   | VDD    | 53      | -   | VDD    | 78      | -   | VDD    |
| 4       | -   | NC     | 29      | -   | NC     | 54      | -   | NC     | 79      | -   | NC     |
| 5       | -   | GND    | 30      | -   | NC     | 55      | -   | GND    | 80      | I   | FZ     |
| 6       | I   | T1     | 31      | I   | DI0    | 56      | -   | NC     | 81      | I   | OE     |
| 7       | I   | SI15   | 32      | I   | DI1    | 57      | O   | SO00   | 82      | I   | CI0    |
| 8       | I   | SI14   | 33      | I   | DI2    | 58      | O   | SO01   | 83      | I   | CI1    |
| 9       | I   | SI13   | 34      | I   | DI3    | 59      | O   | SO02   | 84      | I   | CI2    |
| 10      | I   | SI12   | 35      | I   | DI4    | 60      | O   | SO03   | 85      | I   | CI3    |
| 11      | I   | SI11   | 36      | I   | DI5    | 61      | O   | SO04   | 86      | I   | CI4    |
| 12      | I   | SI10   | 37      | I   | DI6    | 62      | O   | SO05   | 87      | I   | CI5    |
| 13      | I   | SI09   | 38      | I   | DI7    | 63      | O   | SO06   | 88      | I   | CI6    |
| 14      | I   | SI08   | 39      | I   | OVFIN  | 64      | O   | SO07   | 89      | I   | CI7    |
| 15      | -   | VDD    | 40      | -   | VDD    | 65      | -   | GND    | 90      | -   | GND    |
| 16      | -   | GND    | 41      | -   | GND    | 66      | -   | VDD    | 91      | -   | VDD    |
| 17      | I   | SI07   | 42      | O   | OVFOUT | 67      | O   | SO08   | 92      | I   | CLK    |
| 18      | I   | SI06   | 43      | O   | DO7    | 68      | O   | SO09   | 93      | I   | WCK    |
| 19      | I   | SI05   | 44      | O   | DO6    | 69      | O   | SO10   | 94      | -   | NC     |
| 20      | I   | SI04   | 45      | O   | DO5    | 70      | O   | SO11   | 95      | I   | A0     |
| 21      | I   | SI03   | 46      | O   | DO4    | 71      | O   | SO12   | 96      | I   | A1     |
| 22      | I   | SI02   | 47      | O   | DO3    | 72      | O   | SO13   | 97      | I   | A2     |
| 23      | I   | SI01   | 48      | O   | DO2    | 73      | O   | SO14   | 98      | I   | A3     |
| 24      | I   | SI00   | 49      | O   | DO1    | 74      | O   | SO15   | 99      | I   | CS0    |
| 25      | -   | NC     | 50      | O   | DO0    | 75      | O   | PO     | 100     | I   | CS1    |



**INPUT**

A0 - A3 : COEFFICIENT RESISTOR SELECT SIGNAL  
 CI0 - CI7 : COEFFICIENT DATA INPUTS  
 CLK : VIDEO CLOCK  
 CS0 - CS2 : CHIP SELECT  
 DI0 - DI7 : SIGNAL DATA INPUTS  
 FZ : FLASH EERO  
 OE : CASCADE SUM OUTPUT ENABLE  
 OVFIN : OVER FLOW INPUT  
 SI00 - SI15 : CASCADE SUM INPUTS  
 T1 : TEST ENABLE INPUT (NORMALLY HIGH LEVEL)  
 WCK : COEFFICIENT WRITE CLOCK  
 WE : WRITE ENABLE

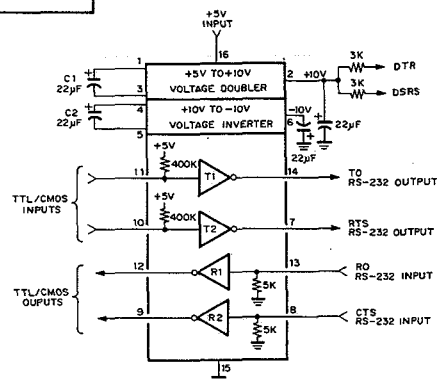
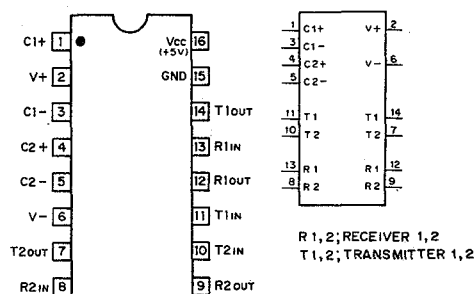
**OUTPUT**

DO0 - DO7 : SIGNAL DATA OUTPUTS  
 OVFOUT : OVER FLOW OUTPUT  
 PO : TEST OUTPUT (NORMALLY NC)  
 SO00 - SO15 : CASCADE SUM OUTPUTS

## MAX232CPE (MAXIM)

## RS-232 TRANSMITTER/RECEIVER

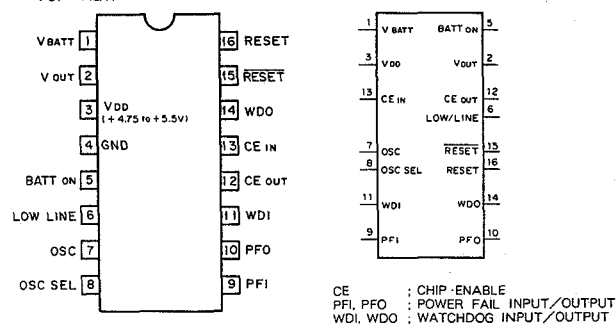
- TOP VIEW -



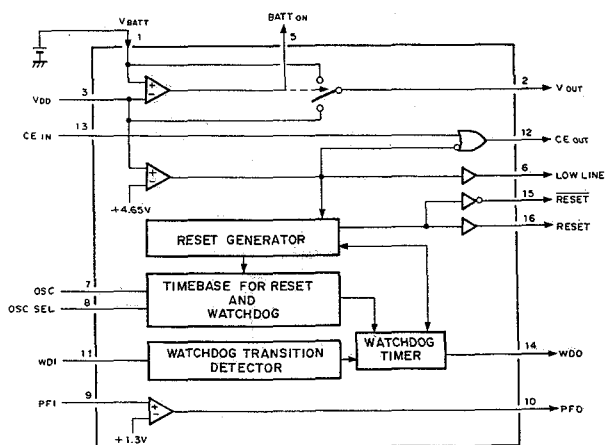
## MAX691CPE (MAXIM)

## C-MOS MICROPROCESSOR SUPERVISORY CIRCUITS

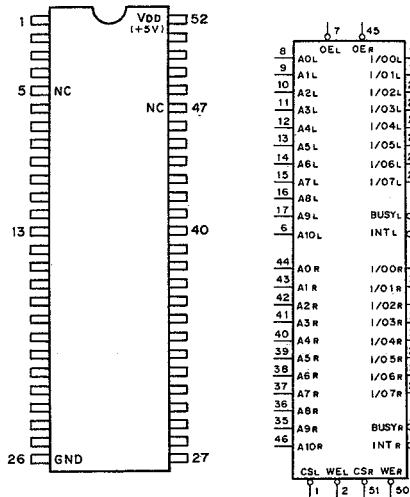
- TOP VIEW -



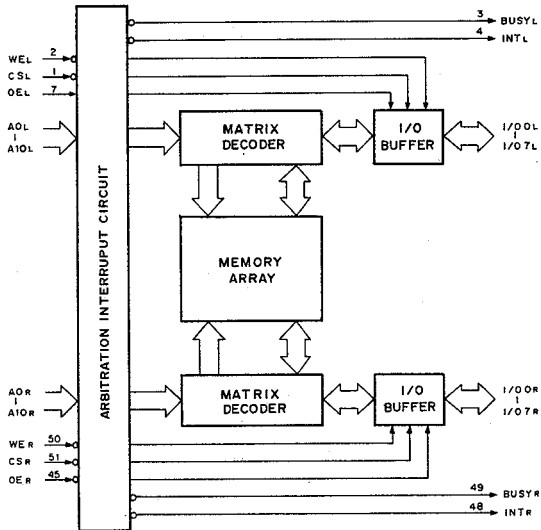
CE : CHIP-ENABLE  
 PFI, PFO : POWER FAIL INPUT/OUTPUT  
 WDI, WDO : WATCHDOG INPUT/OUTPUT



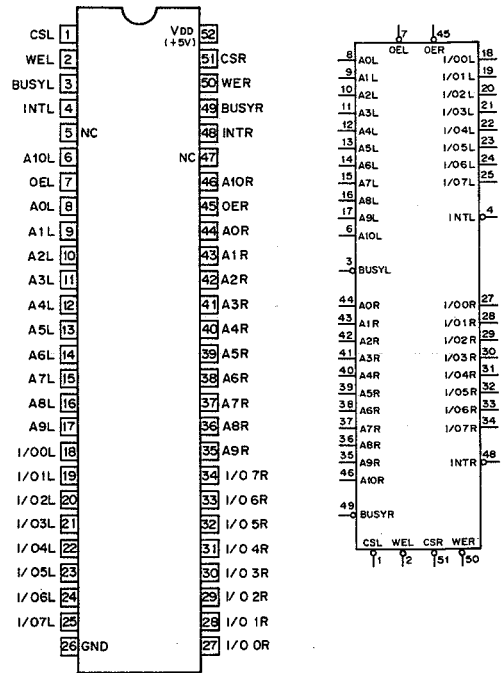
MB8421-90LP (FUJITSU) (ACCESS TIME = 90ns)  
C-MOS 16384 (2Kx8) BIT DUAL PORT STATIC RAM  
- TOP VIEW -



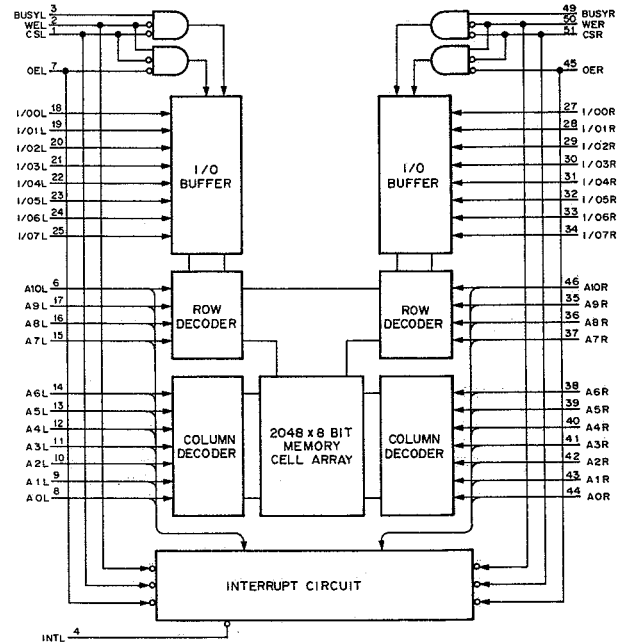
A0L-A10L, A0R-A10R ; ADDRESS INPUTS  
I/O0L-I/O7L, I/O0R-I/O7R ; DATA INPUTS/OUTPUTS  
CSL, CSR ; CHIP SELECT INPUT  
WEL, WER ; WRITE ENABLE INPUT  
OEL, OER ; OUTPUT ENABLE INPUT  
BUSYL, BUSYR ; BUSY OUTPUT  
INTL, INTR ; INTERRUPT OUTPUT



MB8431-90LP (FUJITSU)  
C-MOS 16K (2048x8)-BIT DUAL PORT STATIC RAM  
- TOP VIEW -



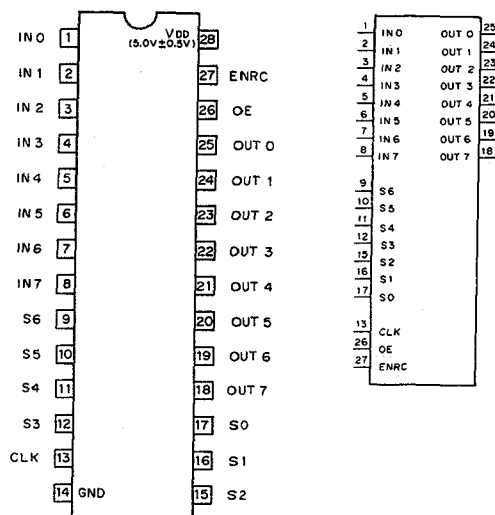
A0L-A10L, A0R-A10R ; ADDRESS INPUTS  
I/O0L-I/O7L, I/O0R-I/O7R ; DATA INPUTS/OUTPUTS  
CSL, CSR ; CHIP SELECT INPUT  
WEL, WER ; WRITE ENABLE INPUT  
OEL, OER ; OUTPUT ENABLE INPUT  
BUSYL, BUSYR ; BUSY INPUT  
INTL, INTR ; INTERRUPT OUTPUT



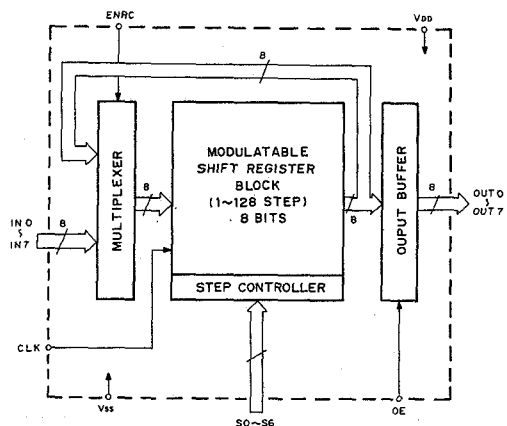
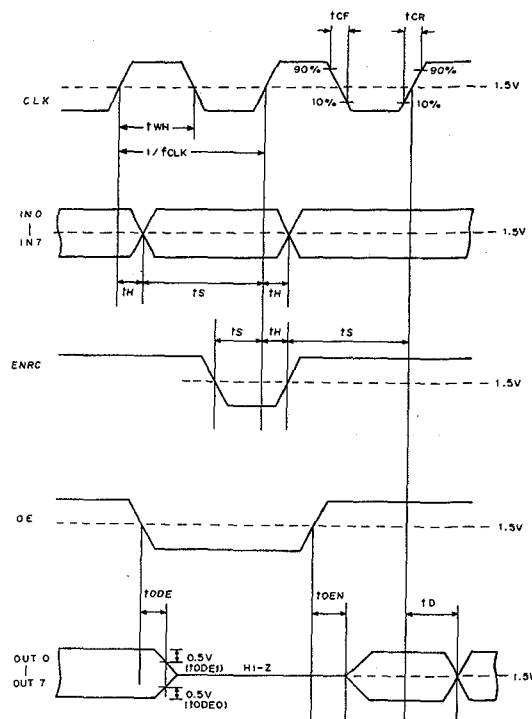




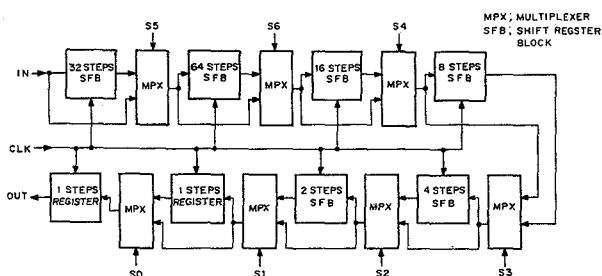
## SM5828P (NPC)

C-MOS 128 STEPS 8 BITS PROGRAMABLE SHIFT REGISTER  
- TOP VIEW -

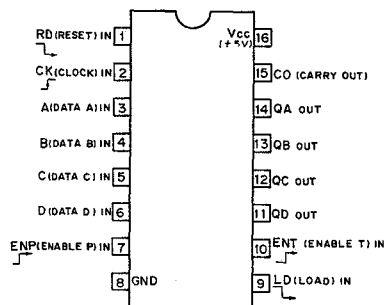
CLK : CLOCK INPUT  
ENRC : CIRCULATION CONTROL  
IN0-IN7 : DATA INPUT  
OE : OUTPUT ENABLE  
OUT0-OUT7 : DATA OUTPUT  
S0-S6 : REGISTER LENGTH SELECT



## MODULATABLE SHIFT REGISTER BLOCK



## SN74ALS161BN (TI)

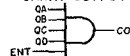
TTL PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER  
- TOP VIEW -

## MODE SELECTION

| CONTROL INPUTS |    |     |     | MODE                    |
|----------------|----|-----|-----|-------------------------|
| Rd             | LD | ENP | ENT |                         |
| 0              | X  | X   | X   | RESET<br>(ASYNCHRONOUS) |
| 1              | 0  | X   | X   | PRESET<br>(SYNCHRONOUS) |
| 1              | 1  | 0   | X   | NO COUNT                |
| 1              | 1  | X   | 0   | NO COUNT                |
| 1              | 1  | 1   | 1   | COUNT                   |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

## CARRY OUTPUT "CO"

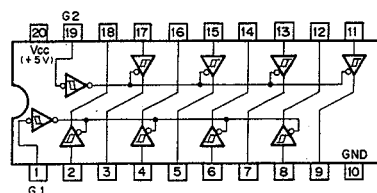


CO IS HIGH WHEN ENT INPUT IS HIGH AND COUNT IS "15"

## COUNT SEQUENCE

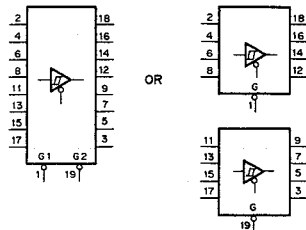
| COUNT | QD | QC | QB | QA |
|-------|----|----|----|----|
| 0     | 0  | 0  | 0  | 0  |
| 1     | 0  | 0  | 0  | 1  |
| 2     | 0  | 0  | 0  | 1  |
| 3     | 0  | 0  | 1  | 1  |
| 4     | 0  | 1  | 0  | 0  |
| 5     | 0  | 1  | 0  | 1  |
| 6     | 0  | 1  | 1  | 0  |
| 7     | 0  | 1  | 1  | 1  |
| 8     | 1  | 0  | 0  | 0  |
| 9     | 1  | 0  | 0  | 1  |
| 10    | 1  | 0  | 1  | 0  |
| 11    | 1  | 0  | 1  | 1  |
| 12    | 1  | 1  | 0  | 0  |
| 13    | 1  | 1  | 0  | 1  |
| 14    | 1  | 1  | 1  | 0  |
| 15    | 1  | 1  | 1  | 1  |

## SN74ALS244BN (TI)

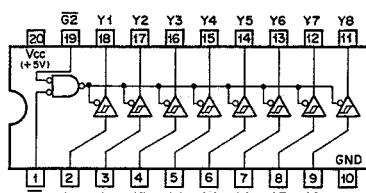
TTL 3-STATE SCHMITT TRIGGER BUFFER/DRIVER  
- TOP VIEW -

| G | A | Y    |
|---|---|------|
| 0 | 0 | 0    |
| 0 | 1 | 1    |
| 1 | X | HI-Z |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE  
HI-Z: HIGH IMPEDANCE

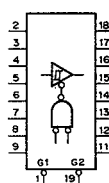


## SN74ALS541N (TI)

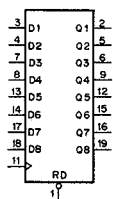
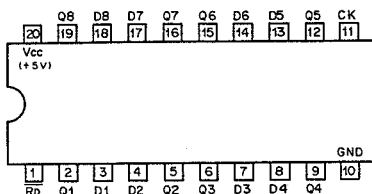
TTL BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS  
- TOP VIEW -

| G1 | G2 | A | Y    |
|----|----|---|------|
| 0  | 0  | 0 | 0    |
| 0  | 0  | 1 | 1    |
| 1  | X  | X | HI-Z |
| X  | 1  | X | HI-Z |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE  
HI-Z: HIGH IMPEDANCE

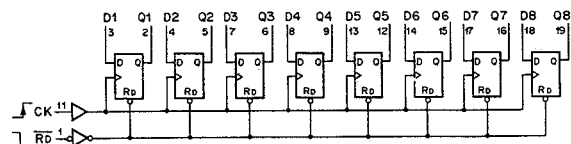


## SN74ALS273N (TI)

TTL D-TYPE FLIP-FLOP WITH DIRECT RESET  
- TOP VIEW -

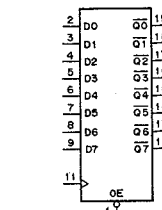
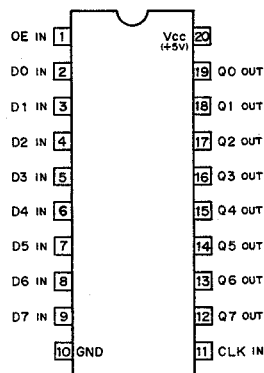
| EACH FLIP-FLOP |    |   |     |
|----------------|----|---|-----|
| INPUTS         |    |   | OUT |
| Rd             | CK | D | Q   |
| 0              | X  | X | 0   |
| 1              | 0  | 0 | 0   |
| 1              | 1  | 1 | 1   |
| 1              | 0  | X | Q0  |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE



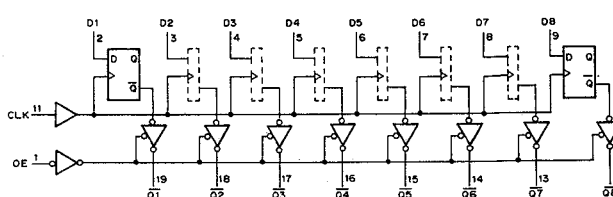
## SN74ALS564AN (TI)

TTL OCTAL D-TYPE FLIP-FLOPS WITH 3-STATE OUTPUTS

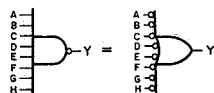
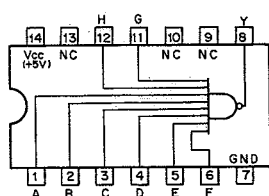


| EACH FLIP-FLOP |     |   |           |
|----------------|-----|---|-----------|
| INPUTS         |     |   | OUTPUT    |
| OE             | CLK | D | Q         |
| 0              | 0   | 1 | 0         |
| 0              | 1   | 0 | 1         |
| 0              | 0   | X | NO CHANGE |
| 1              | X   | X | HI-Z      |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE  
HI-Z: HIGH IMPEDANCE



## SN74ALS30AN (TI)

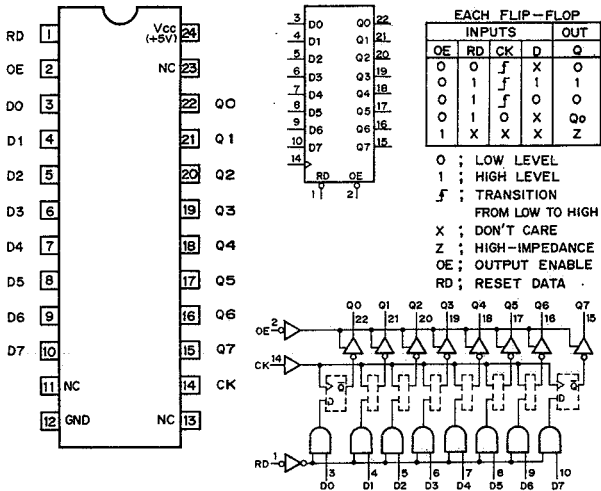
TTL 8-INPUT POSITIVE-NAND GATE  
- TOP VIEW -

$$Y = A \cdot B \cdot C \cdot D \cdot E \cdot F \cdot G \cdot H$$

$$= A + B + C + \dots + H$$

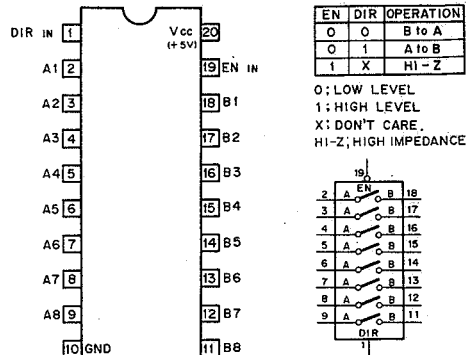
## SN74ALS575NT (TI)

TTL 3-STATE OCTAL D-TYPE EDGE-TRIGGERED FLIP-FLOPS WITH CLEAR  
- TOP VIEW -



## SN74ALS645AN (TI)

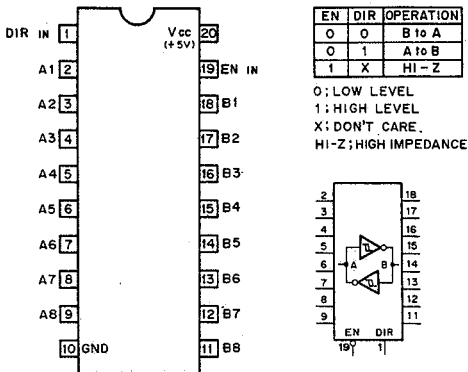
TTL BILATERAL SCHMITT TRIGGER BUS TRANSCEIVERS WITH 3-STATE OUTPUT  
- TOP VIEW -



## SN74ALS640AN (TI)

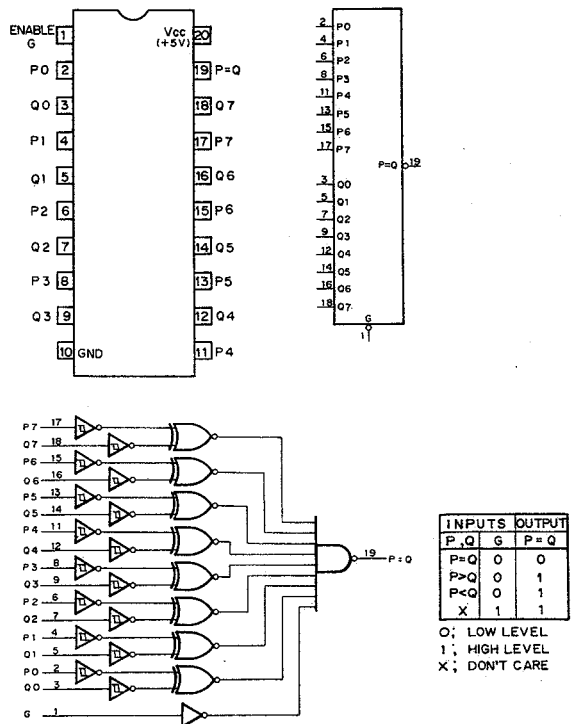
## SN74ALS640N (TI)

TTL BILATERAL SCHMITT TRIGGER BUS TRANSCEIVERS INVERTER  
WITH 3-STATE OUTPUT  
- TOP VIEW -

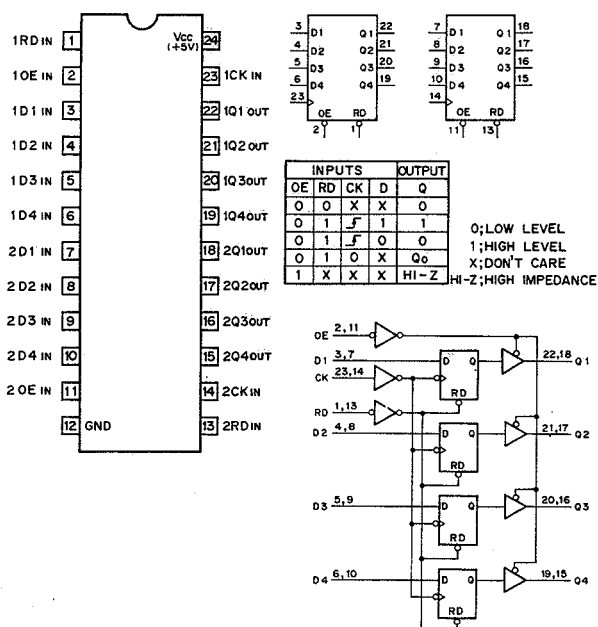
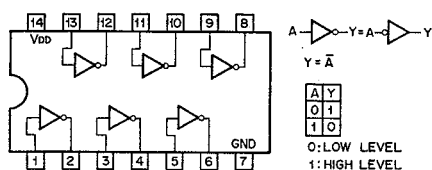


## SN74ALS688N (TI)

TTL 8-BIT MAGNITUDE COMPARATOR  
- TOP VIEW -



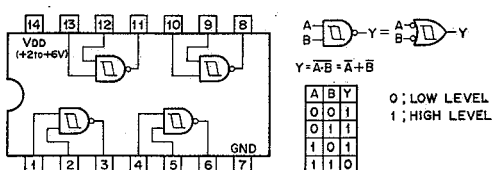
## SN74ALS874NT (TI)

TTL DUAL 4-BIT D-TYPE EDGE-TRIGGERED FLIP-FLOPS  
- TOP VIEW -SN74HC04N (TI)  
TC74ACT04P (TOSHIBA)  
TC74HCT04AP (TOSHIBA)C-MOS HEX INVERTER  
- TOP VIEW -

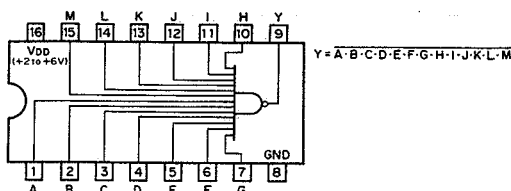
## NOTE:

| TYPE          | V <sub>DD</sub> |
|---------------|-----------------|
| 74ACT04 TYPES | +5V             |
| 74HCT04 TYPES | +5V             |
| TC74AC04F     | +2 to +5.5V     |
| TC74ACT04F    | +4.5 to +5.5V   |
| OTHER TYPES   | +2 to +6V       |

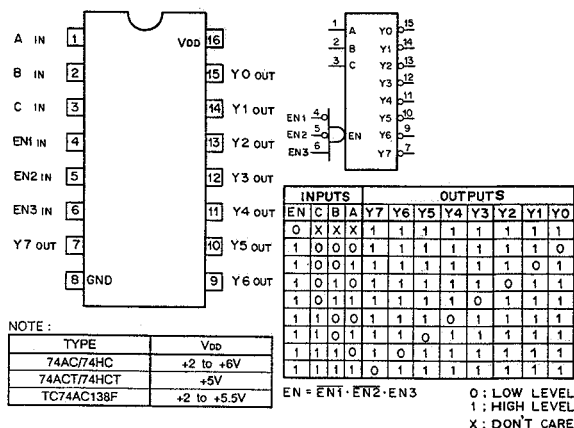
## SN74HC132N (TI)

C-MOS 2-INPUT NAND SCHMITT TRIGGER  
- TOP VIEW -

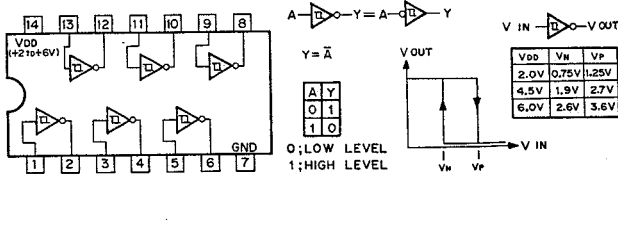
## SN74HC133N (TI)

C-MOS 13-INPUT NAND GATE  
- TOP VIEW -

## SN74HC138N (TI)

C-MOS 3-TO-8 LINE DECODER/DEMULPLEXER  
- TOP VIEW -

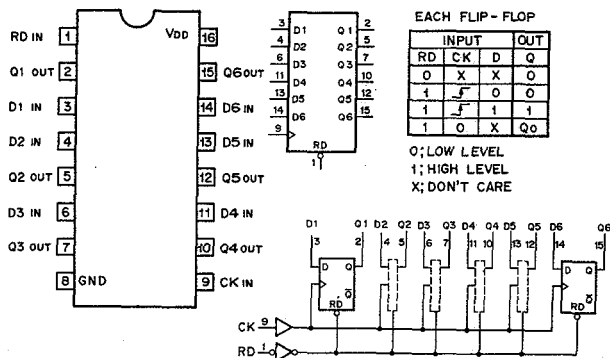
## SN74HC10N (TI)

C-MOS 3-INPUT NAND GATE  
- TOP VIEW -

## SN74HC14N (TI)

C-MOS SCHMITT TRIGGER INVERTER  
- TOP VIEW -

## SN74HC174N (TI)

C-MOS D-TYPE FLIP-FLOP WITH RESET  
- TOP VIEW -

NOTE:

| TYPE       | V <sub>DD</sub> |
|------------|-----------------|
| 74AC       | +3.3 to +5V     |
| 74ACT      | +5V             |
| 74HC       | +2 to +6V       |
| TC74AC174F | +2 to +5.5V     |

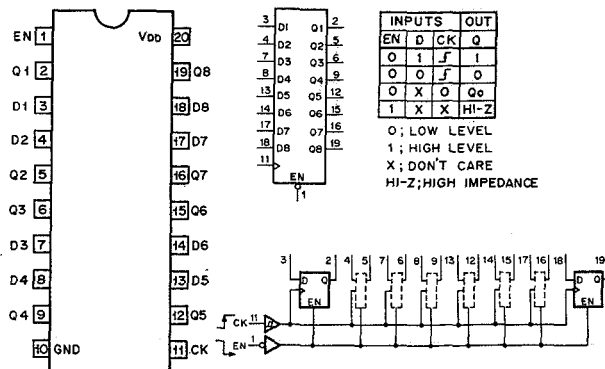
EACH FLIP-FLOP

| INPUT |    | OUT |                |
|-------|----|-----|----------------|
| RD    | CK | D   | Q              |
| 0     | X  | X   | 0              |
| 1     | X  | 0   | 0              |
| 1     | X  | 1   | 1              |
| 1     | 0  | X   | Q <sub>0</sub> |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE

## SN74HC374N (TI)

SN74HCT374N (TI)

C-MOS 3-STATE OCTAL D-TYPE FLIP-FLOP  
- TOP VIEW -

NOTE:

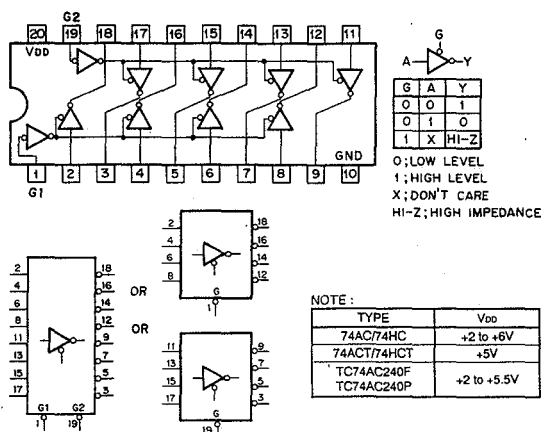
| TYPE        | V <sub>DD</sub> |
|-------------|-----------------|
| 74AC/74HC   | +2 to +6V       |
| 74ACT/74HCT | +5V             |

| INPUTS |   | OUT            |
|--------|---|----------------|
| EN     | D | Q              |
| 0      | 1 | 0              |
| 0      | 0 | 0              |
| 0      | X | Q <sub>0</sub> |
| 1      | X | HI-Z           |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE  
HI-Z; HIGH IMPEDANCE

## SN74HC240N (TI)

SN74HCT240N (TI)

C-MOS 3-STATE INVERTER/LINE DRIVER  
- TOP VIEW -

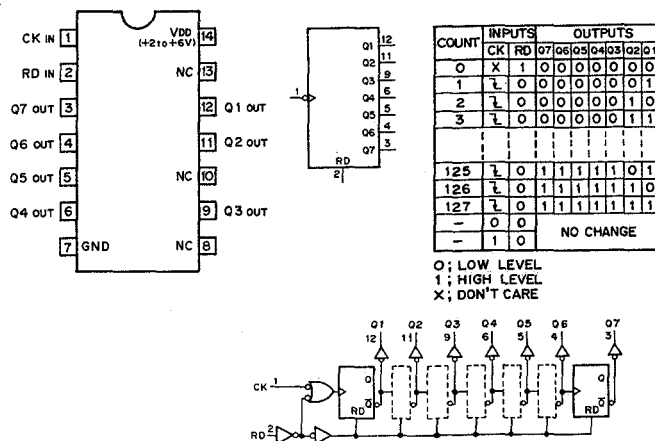
| G | A | Y    |
|---|---|------|
| 0 | 0 | 1    |
| 0 | 1 | 0    |
| 1 | X | HI-Z |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE  
HI-Z; HIGH IMPEDANCE

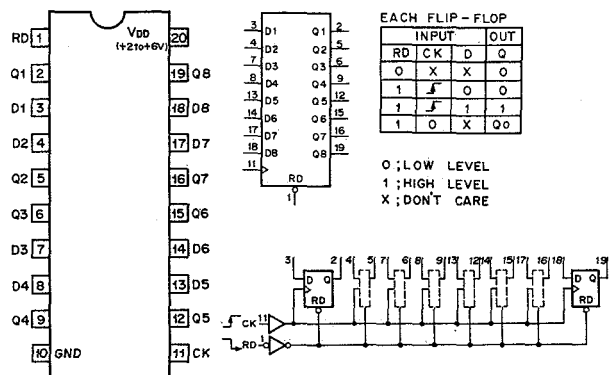
NOTE:

| TYPE        | V <sub>DD</sub> |
|-------------|-----------------|
| 74AC/74HC   | +2 to +6V       |
| 74ACT/74HCT | +5V             |
| TC74AC240F  | +2 to +5.5V     |
| TC74AC240P  | +2 to +5.5V     |

## SN74HC4024N (TI)

C-MOS 7-BIT BINARY COUNTERS  
- TOP VIEW -0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE

## SN74HC273N (TI)

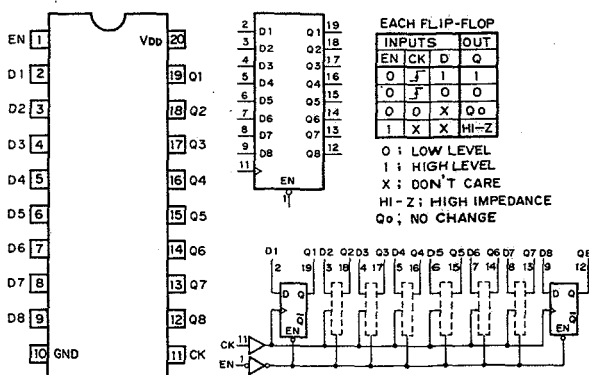
C-MOS D-TYPE FLIP-FLOP WITH RESET  
- TOP VIEW -

EACH FLIP-FLOP

| INPUT |    | OUT |                |
|-------|----|-----|----------------|
| RD    | CK | D   | Q              |
| 0     | X  | X   | 0              |
| 1     | X  | 0   | 0              |
| 1     | X  | 1   | 1              |
| 1     | 0  | X   | Q <sub>0</sub> |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE

## SN74HC574N (TI)

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP  
- TOP VIEW -

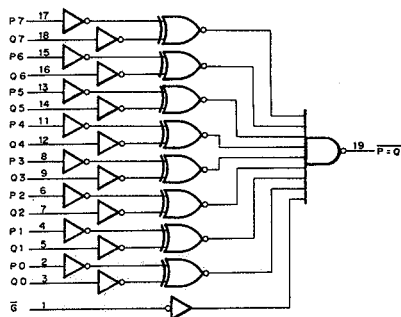
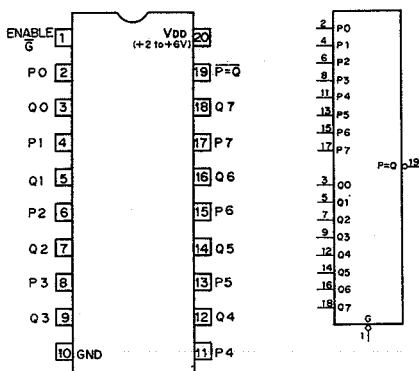
| INPUTS |   | OUT            |
|--------|---|----------------|
| EN     | D | Q              |
| 0      | 1 | 0              |
| 0      | 0 | 0              |
| 0      | X | Q <sub>0</sub> |
| 1      | X | HI-Z           |

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE  
HI-Z; HIGH IMPEDANCE  
Q<sub>0</sub>; NO CHANGE

NOTE:

| TYPE       | V <sub>DD</sub> |
|------------|-----------------|
| 74AC/74HC  | +2 to +6V       |
| 74HCT      | +5V             |
| TC74AC574F | +2 to +5.5V     |

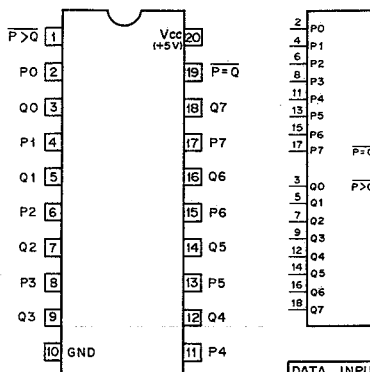
## SN74HC688N (TI)

C-MOS 8-BIT MAGNITUDE COMPARATOR  
- TOP VIEW -

| INPUTS | OUTPUT |
|--------|--------|
| P Q    | P=Q    |
| 0 0    | 1      |
| 0 1    | 0      |
| 1 0    | 0      |
| 1 1    | 1      |

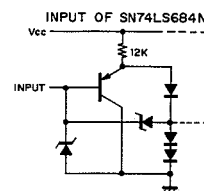
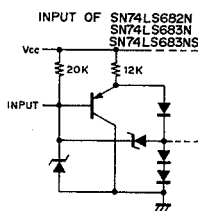
0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE

## SN74LS682N (TI)

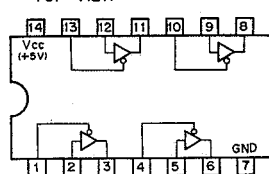
TTL 8-BIT MAGNITUDE COMPARATOR  
WITH TOTEM-POLE OUTPUTS  
- TOP VIEW -

| DATA INPUTS |         | OUTPUTS          |                  |
|-------------|---------|------------------|------------------|
| P0 - P7     | Q0 - Q7 | $\overline{P=Q}$ | $\overline{P>Q}$ |
| P=Q         |         | 0                | 1                |
| P>Q         |         | 1                | 0                |
| P<Q         |         | 1                | 1                |

1; HIGH LEVEL  
0; LOW LEVEL



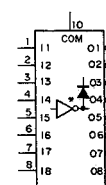
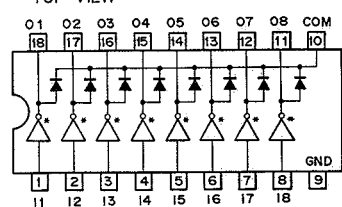
## SN74LS125AN (TI)

TTL BUS BUFFER GATES WITH 3-STATE OUTPUTS  
- TOP VIEW -

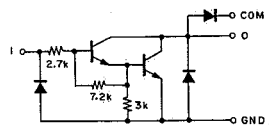
| A | Y    |
|---|------|
| 0 | 0    |
| 1 | 1    |
| X | HI-Z |

0; LOW LEVEL X; DON'T CARE  
1; HIGH LEVEL HI-Z; HIGH IMPEDANCE

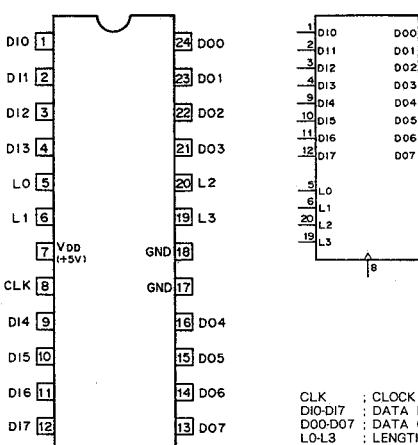
## TD62083AP (TOSHIBA)

DARLINGTON DRIVER  
- TOP VIEW -

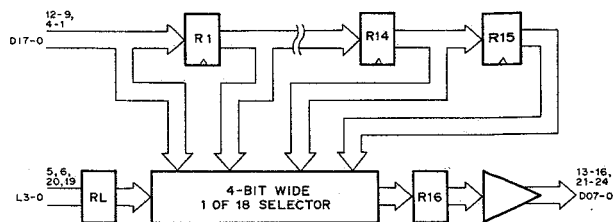
\* ; OPEN COLLECTOR



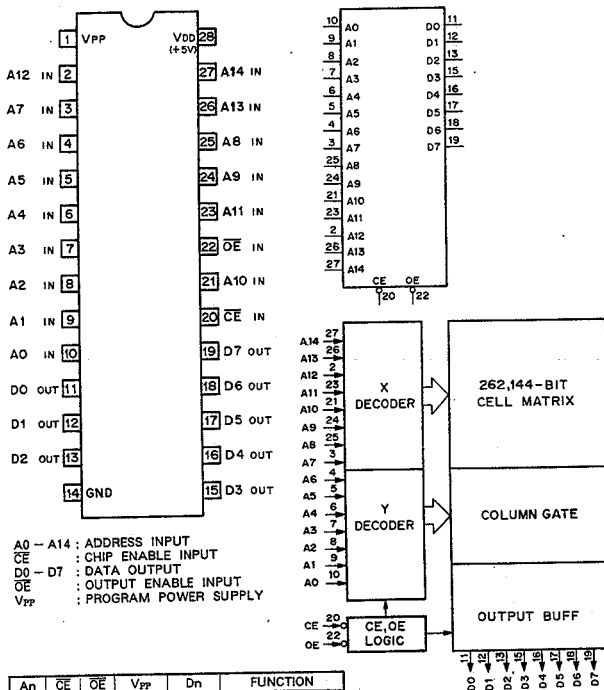
## TMC2111B2C (TRW)

C-MOS VARIABLE-LENGTH SHIFT REGISTER  
- TOP VIEW -

CLK : CLOCK  
D10-D17 : DATA INPUTS  
D00-D07 : DATA OUTPUTS  
L0-L3 : LENGTH SELECT INPUTS



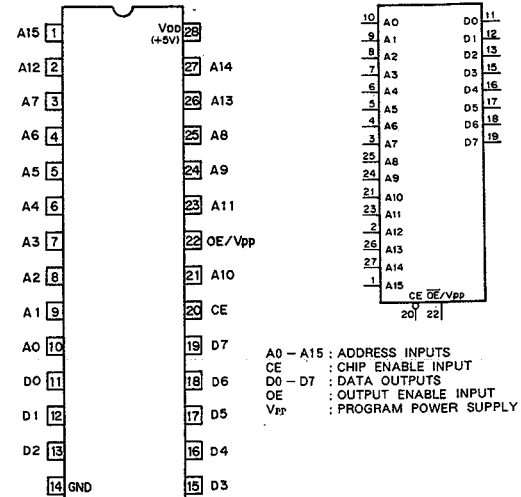
## TMS27C256-15JL (TI)

C-MOS 256K(32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS  
- TOP VIEW -

| An | CE | OE | Vpp  | Dn   | FUNCTION       |
|----|----|----|------|------|----------------|
| An | 0  | 0  | +5V  | Dout | READ           |
| An | 0  | 1  | +5V  | Hi-Z | OUTPUT DISABLE |
| X  | 1  | X  | +5V  | Hi-Z | STANDBY        |
| An | 0  | 1  | +21V | Din  | PGM            |
| An | 0  | 0  | +21V | Dout | PGM VERIFY     |
| X  | 1  | 1  | +21V | Hi-Z | PGM INH        |

0 : LOW LEVEL  
1 : HIGH LEVEL  
X : DON'T CARE  
Hi-Z : HIGH IMPEDANCE

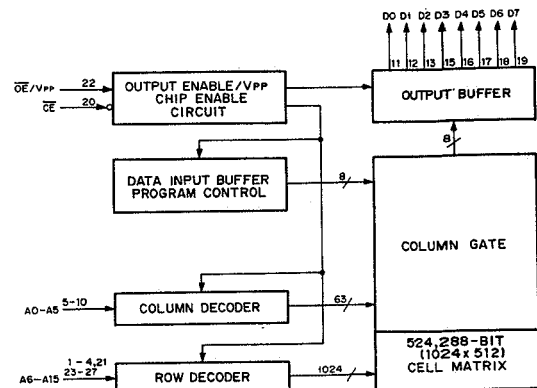
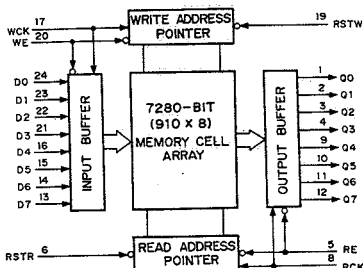
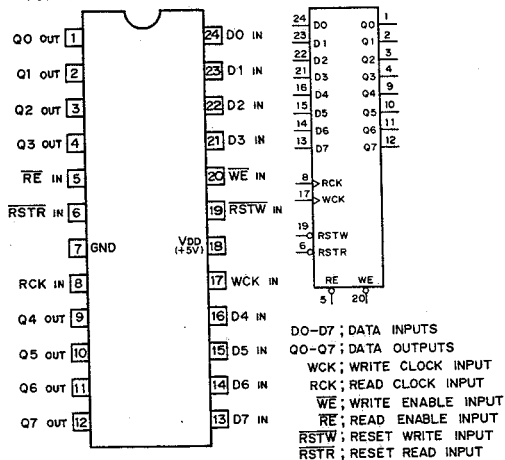
## TMS27C512-20JL (TI)

C-MOS 512K(65,536x8 = 524,288)-BIT ERASABLE PROM  
- TOP VIEW -

| An | CE | OE/Vpp | VDD | Dn   | FUNCTION       |
|----|----|--------|-----|------|----------------|
| An | 0  | 0      | +5V | Dout | READ           |
| An | 0  | 1      | +5V | Hi-Z | OUTPUT DISABLE |
| X  | 1  | X      | +5V | Hi-Z | STANDBY        |
| An | 0  | +12.5V | +6V | Din  | PGM            |
| An | 0  | 0      | +6V | Dout | PGM VERIFY     |
| X  | 1  | +12.5V | +6V | Hi-Z | PGM INH        |

0 : LOW LEVEL  
1 : HIGH LEVEL  
X : DON'T CARE  
Hi-Z : HIGH IMPEDANCE

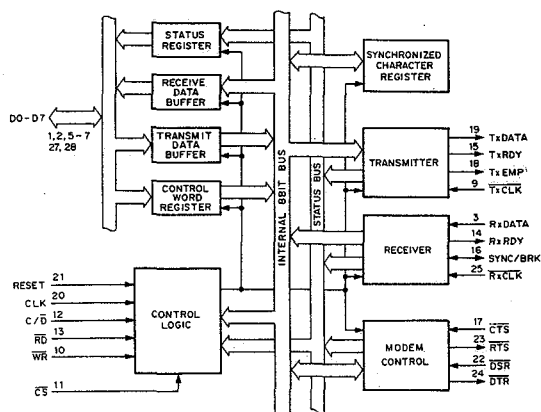
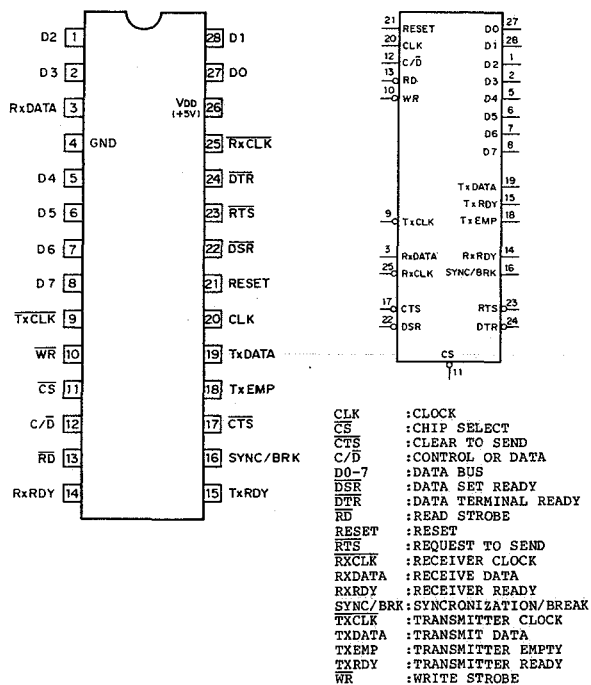
## uPD42101C-3 (NEC)

C-MOS 7K (910x8)-BIT FIFO MEMORY  
- TOP VIEW -



## uPD71051C - 10 (NEC)

C-MOS SERIAL CONTROL UNIT  
- TOP VIEW -

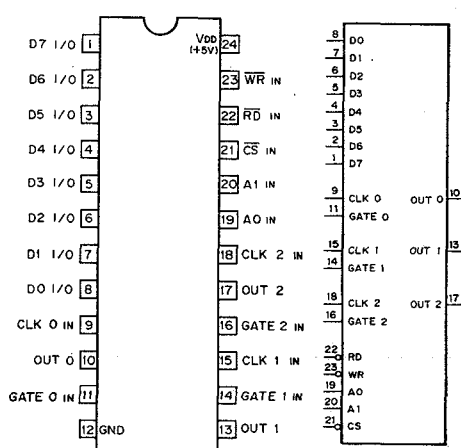


| CS | RD | WR | C/D | MODE                              | FUNCTION           |
|----|----|----|-----|-----------------------------------|--------------------|
| 0  | 0  | 1  | 0   | RECEIVE DATA BUFFER--> DATA BUS   | READ RECEIVE DATA  |
| 0  | 0  | 1  | 1   | STATUS REGISTER--> DATA BUS       | READ STATUS        |
| 0  | 1  | 0  | 0   | DATA BUS--> TRANSMIT DATA BUFFER  | WRITE RECEIVE DATA |
| 0  | 1  | 0  | 1   | DATA BUS--> CONTROL WORD REGISTER | WRITE CONTROL WORD |
| 0  | 1  | 1  | X   | DATA BUS:HIGH IMPEDANCE           |                    |
| 1  | X  | X  | X   | DATA BUS:HIGH IMPEDANCE           |                    |

```
1:HIGH LEVEL
0:LOW LEVEL
X:DON'T CARE
```

## UPD71054C-10 (NEC)

C-MOS PROGRAMMABLE TIMER COUNTER  
- TOP VIEW -

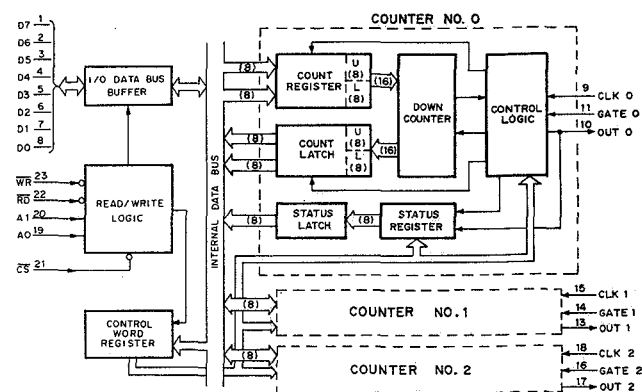


## FUNCTION TABLE

| INPUTS |    |    |    |    | FUNCTION            |
|--------|----|----|----|----|---------------------|
| CS     | RD | WR | A1 | A0 |                     |
| 0      | 1  | 0  | 0  | 0  | Load Counter No. 0  |
| 0      | 1  | 0  | 0  | 1  | Load Counter No. 1  |
| 0      | 1  | 0  | 1  | 0  | Load Counter No. 2  |
| 0      | 1  | 0  | 1  | 1  | Control Word        |
| 0      | 0  | 1  | 0  | 0  | Read Counter 0      |
| 0      | 0  | 1  | 0  | 1  | Read Counter 1      |
| 0      | 0  | 1  | 1  | 0  | Read Counter 2      |
| 0      | 0  | 1  | 1  | 1  | No-Operation (HI-Z) |
| 1      | X  | X  | X  | X  | Disable (HI-Z)      |
| 1      | 1  | 1  | X  | X  | No-Operation (HI-Z) |

|            |                             |
|------------|-----------------------------|
| A0, A1     | : COUNTER SELECT INPUTS     |
| CLK 0 - 2  | : COUNTER CLOCK INPUTS      |
| CS         | : CHIP SELECT INPUT         |
| D0 - D7    | : 8-BIT DATA INPUTS/OUTPUTS |
| GATE 0 - 2 | : COUNTER GATE INPUTS       |
| OUT 0 - 2  | : COUNTER OUTPUTS           |
| RD         | : READ COUNTER INPUT        |
| WR         | : WRITE CMD OR DATA INPUT   |

0;LOW LEVEL  
1;HIGH LEVEL  
X;DON'T CARE  
HI-Z;HIGH IMPEDANCE



### CONTROL WORD FORMAT

|     |     |     |     |    |    |    |     |
|-----|-----|-----|-----|----|----|----|-----|
| D7  | D6  | D5  | D4  | D3 | D2 | D1 | D0  |
| SC1 | SC0 | RL1 | RL0 | M2 | M1 | M0 | BCD |

| BCD | OPERATION      |
|-----|----------------|
| 0   | 16-BIT BINARY  |
| 1   | BCD (4-DECADE) |

| M2 | M1 | M0 | MODE |
|----|----|----|------|
| 0  | 0  | 0  | 0    |
| 0  | 0  | 1  | 1    |
| X  | 1  | 0  | 2    |
| X  | 1  | 1  | 3    |
| 1  | 0  | 0  | 4    |
| 1  | 0  | 1  | 5    |

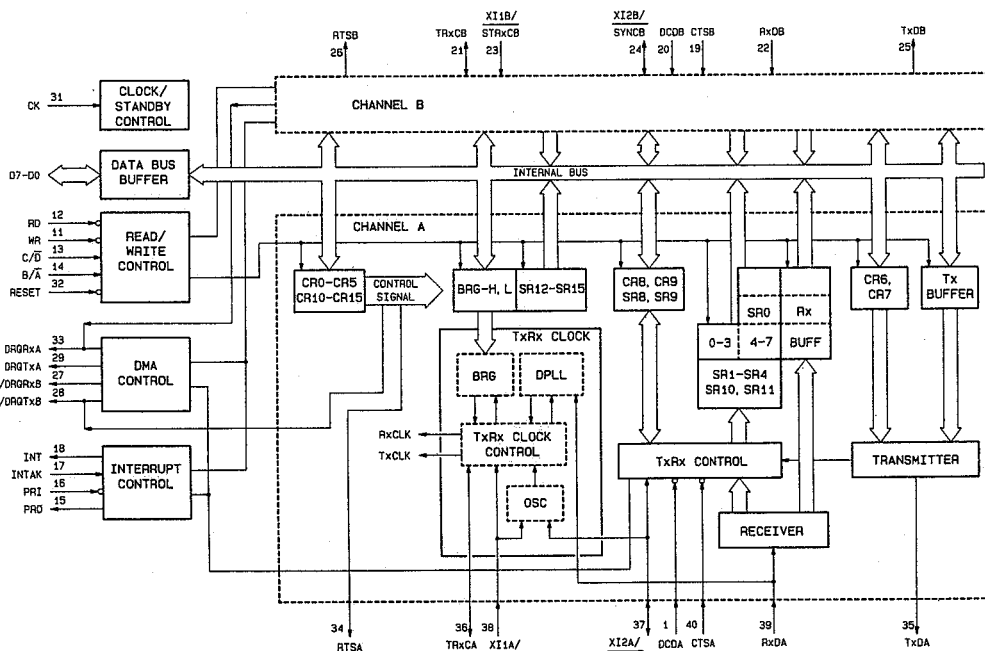
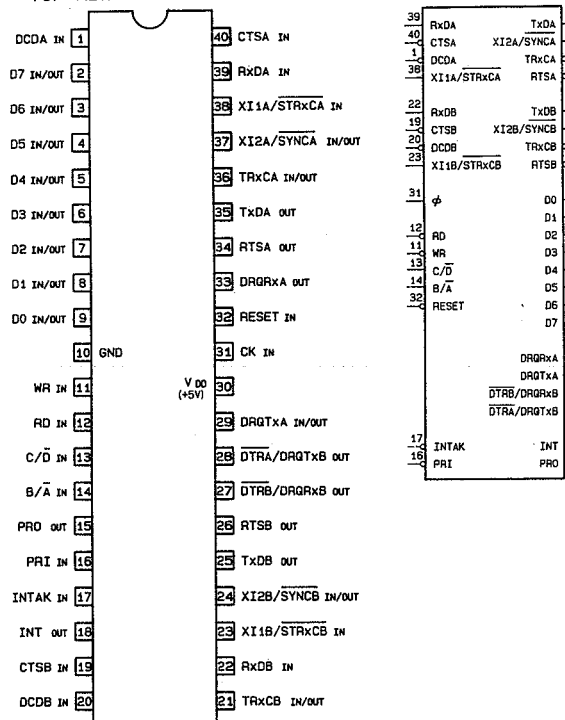
| RL1 | RLO | OPERATION          |
|-----|-----|--------------------|
| 0   | 0   | COUNTER LATCHING   |
| 0   | 1   | READ/LOAD LSB ONLY |
| 1   | 0   | READ/LOAD MSB ONLY |
| 1   | 1   | LSB FIRST THEN MSB |

| SC1 | SC0 | SELECTED COUNTER   |
|-----|-----|--------------------|
| 0   | 0   | COUNTER No. 0      |
| 0   | 1   | COUNTER No. 1      |
| 1   | 0   | COUNTER No. 2      |
| 1   | 1   | MULTIPLE LATCH CMD |

## uPD72001C (NEC)

## CMOS ADVANCED MULTI-PROTOCOL SERIAL CONTROLLER

## - TOP VIEW -



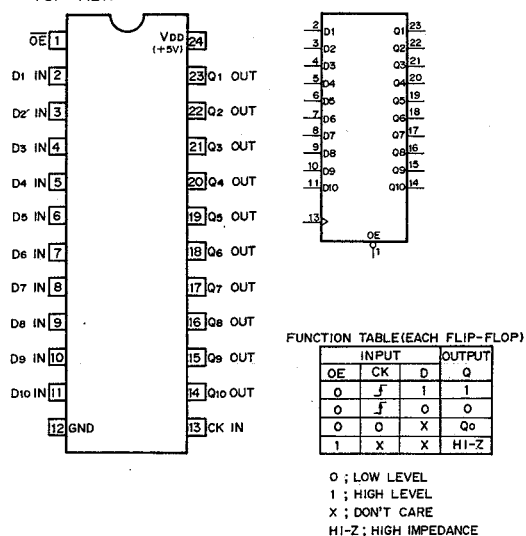
| INPUTS |    |     |     | FUNCTION                           |
|--------|----|-----|-----|------------------------------------|
| WR     | RD | B/A | C/D |                                    |
| 0      | 1  | 0   | 0   | CHANNEL A WRITE (Tx/D)             |
| 1      | 0  | 0   | 0   | CHANNEL B WRITE (Tx/D)             |
| 0      | 1  | 0   | 1   | CHANNEL A READ (Rx/D)              |
| 1      | 0  | 0   | 1   | CHANNEL B READ (Rx/D)              |
| 0      | 1  | 1   | 0   | CHANNEL A WRITE (CONTROL REGISTER) |
| 1      | 0  | 1   | 0   | CHANNEL B WRITE (CONTROL REGISTER) |
| 0      | 1  | 1   | 1   | CHANNEL A READ (STATUS REGISTER)   |
| 1      | 0  | 1   | 1   | CHANNEL B READ (STATUS REGISTER)   |
| 1      | 1  | X   | X   | HIGH-IMPEDANCE                     |
| 0      | 0  | X   | X   | INHIBIT                            |

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE.

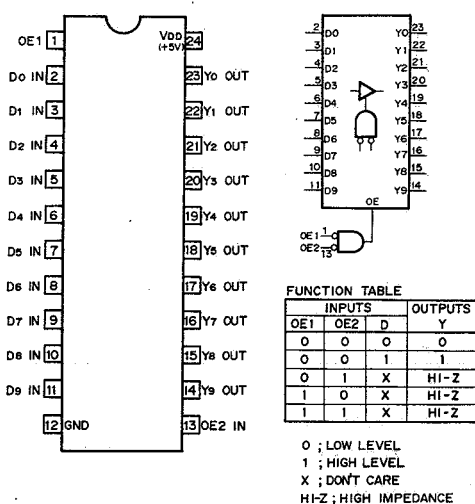
CK : SYSTEM CLOCK INPUT  
WR : WRITE ENABLE INPUT  
RD : READ ENABLE INPUT  
B/A : CHANNEL B/A SELECT INPUT  
C/D : CHANNEL B/A SELECT INPUT  
D0-D7 : DATA BUS INPUTS/OUTPUTS  
INT : INTERRUPT OUTPUT  
INTAK : INTERRUPT ACKNOWLEDGE INPUT  
PRI : PRIORITY INPUT  
DRGTxA : DMA REQUEST TXA OUTPUT  
DRGRxA : DMA REQUEST RXA OUTPUT  
PRO : PRIORITY OUTPUT

DTRA/DRGTxB : DATA TERMINAL READY A/DMA REQUEST TXB OUTPUT  
DTRB/DRGRxB : DATA TERMINAL READY B/DMA REQUEST RXB OUTPUT  
CTSA, CTSB : CLEAR TO SEND A/B INPUT  
DCDA, DCDB : DATA CARRIER DETECT A/B INPUT  
RTSA, RTSB : REQUEST TO SEND A/B OUTPUT  
RESET : RESET INPUT

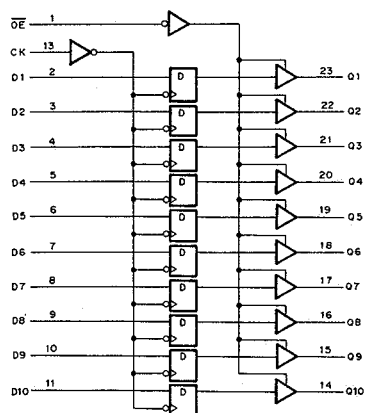
## V74ACT821PS (KANEMATSU)

C-MOS 10-BIT BUS INTERFACE FLIP-FLOPS WITH 3-STATE OUTPUTS  
- TOP VIEW -

## V74ACT827PS (KANEMATSU)

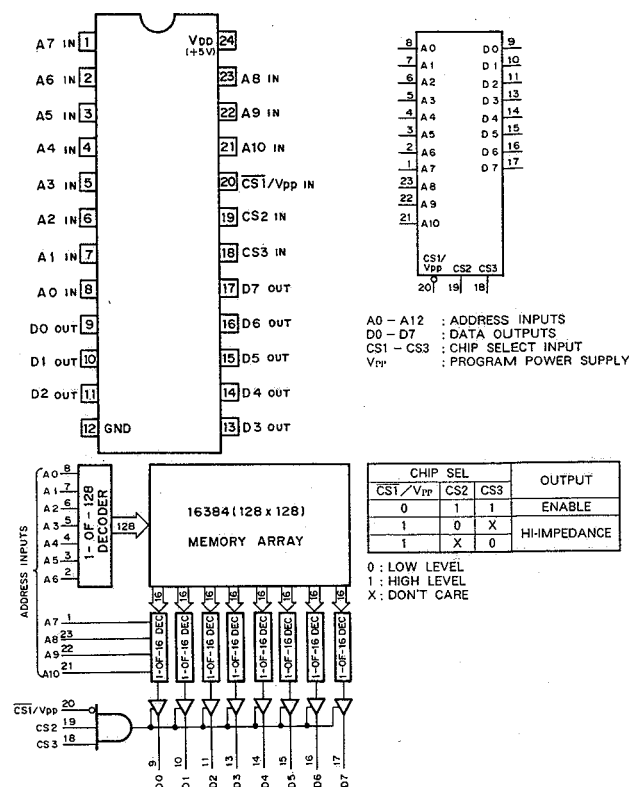
C-MOS 10-BIT BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS  
- TOP VIEW -

## LOGIC DIAGRAM (POSITIVE LOGIC)

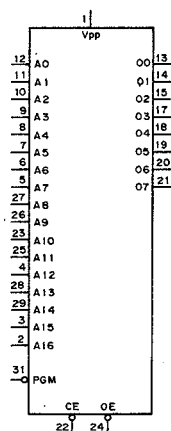
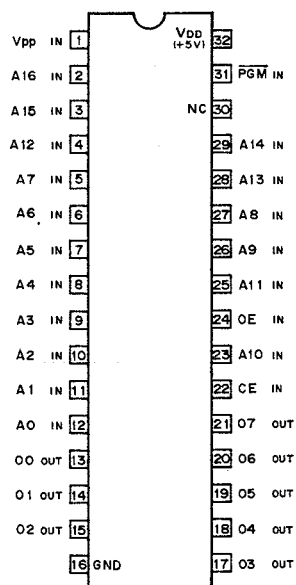


## WS57C291B-45S (WSI)

## WS57C291B-45T (WSI)

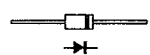
C-MOS 16K-BIT (2048x8) HIGH SPEED ERASABLE P-ROM  
- TOP VIEW -

## WS27C010L-12D (WSI)

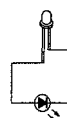
C-MOS 1M (131,072x8)-BIT UV ERASABLE PROM  
- TOP VIEW -

A0 - A16 : ADDRESS INPUTS  
D0 - D7 : DATA OUTPUTS  
CE : CHIP ENABLE INPUT  
OE : OUTPUT ENABLE INPUT  
PGM : PROGRAM INPUT

## &lt; Diode &gt;

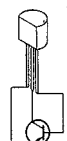
1SS119  
S3S4M

SLR-320VC3 ; RED



TLG123A ; GREEN

## &lt; Transistor &gt;



2SA952

等価回路はICメーカーのData Bookに従いました。

The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

## SECTION 8 SCHEMATIC DIAGRAMS

回路図内において、REF.NOの近傍に下記記号が記載されていますが、これは生産時の部品データです。

In the schematic diagrams, the following marks are described nearby reference number.  
These are parts data at factory.

### CAPACITOR(C)

|     |   |              |
|-----|---|--------------|
| AL  | } | ELECTROLYTIC |
| AS  |   |              |
| TA  | } | TANTALUM     |
| CA  | } | CERAMIC      |
| CC  |   |              |
| CCS |   |              |
| CM  |   |              |
| CS  | } |              |
| MPS | } | MYLAR        |
| PP  |   |              |
| PS  |   |              |
| PT  |   |              |
| MD  | } | DIPPED MICA  |
| MS  | } | MICA         |

### RESISTOR(R)

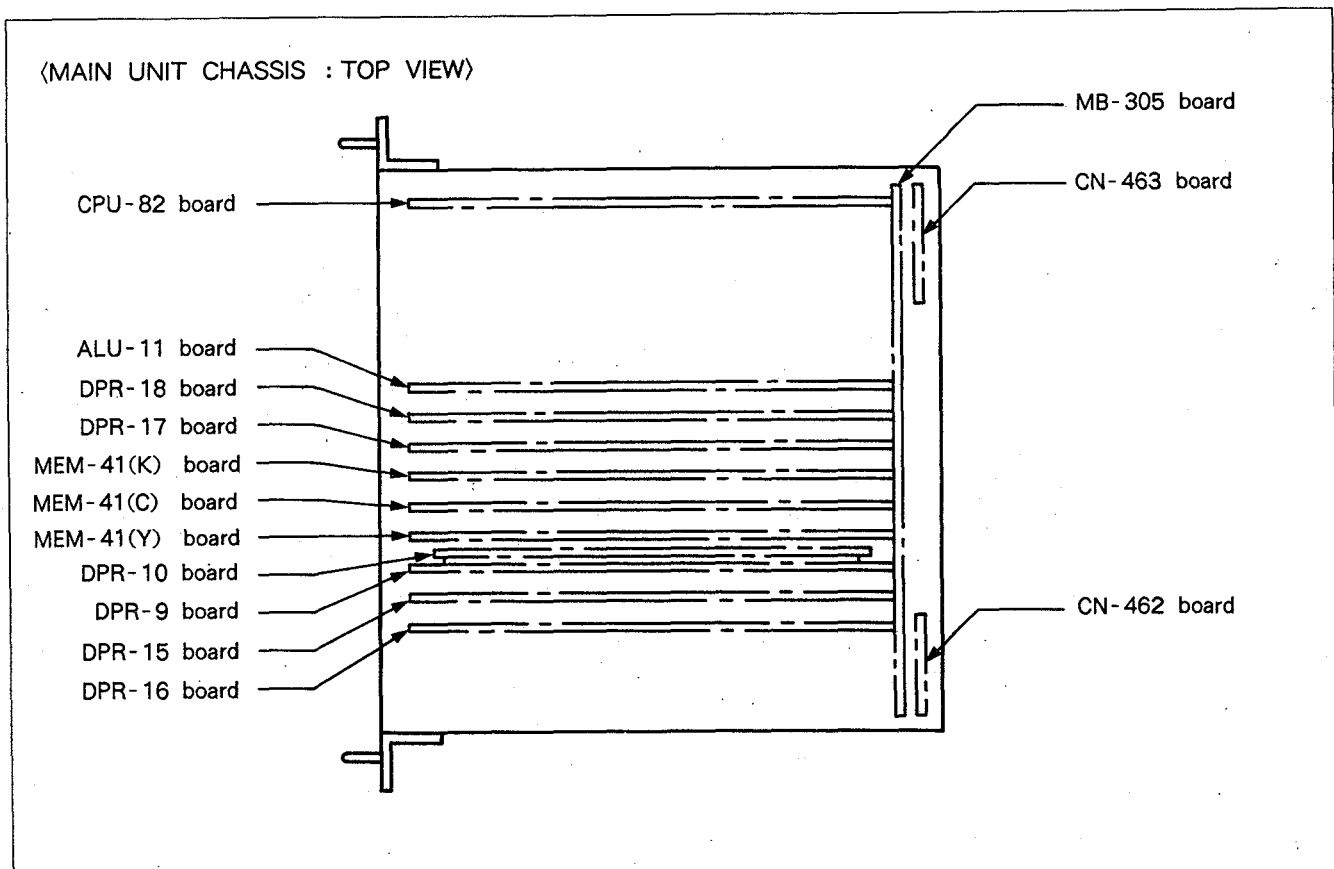
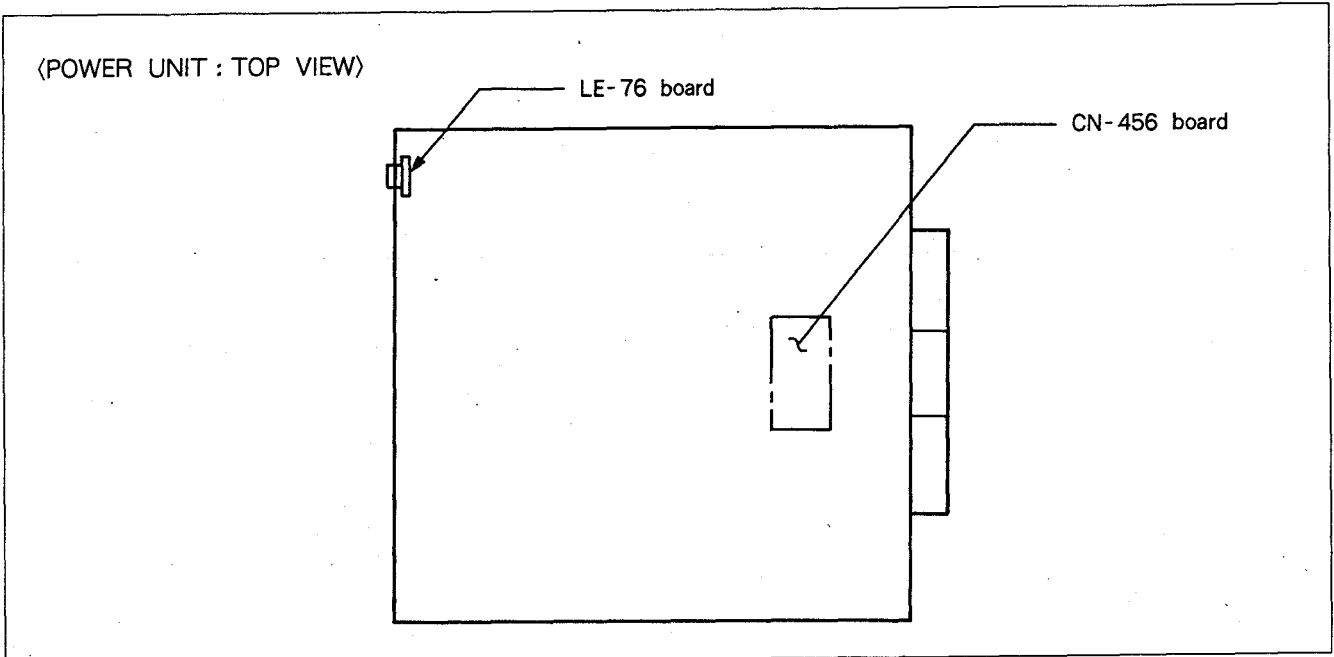
#### VARIABLE RESISTOR(RV)

|    |   |           |
|----|---|-----------|
| RC | } | CARBON    |
| RD |   |           |
| RF | } | FUSE      |
| RN | } | METAL     |
| RS |   |           |
| RW | } | WIREWOUND |

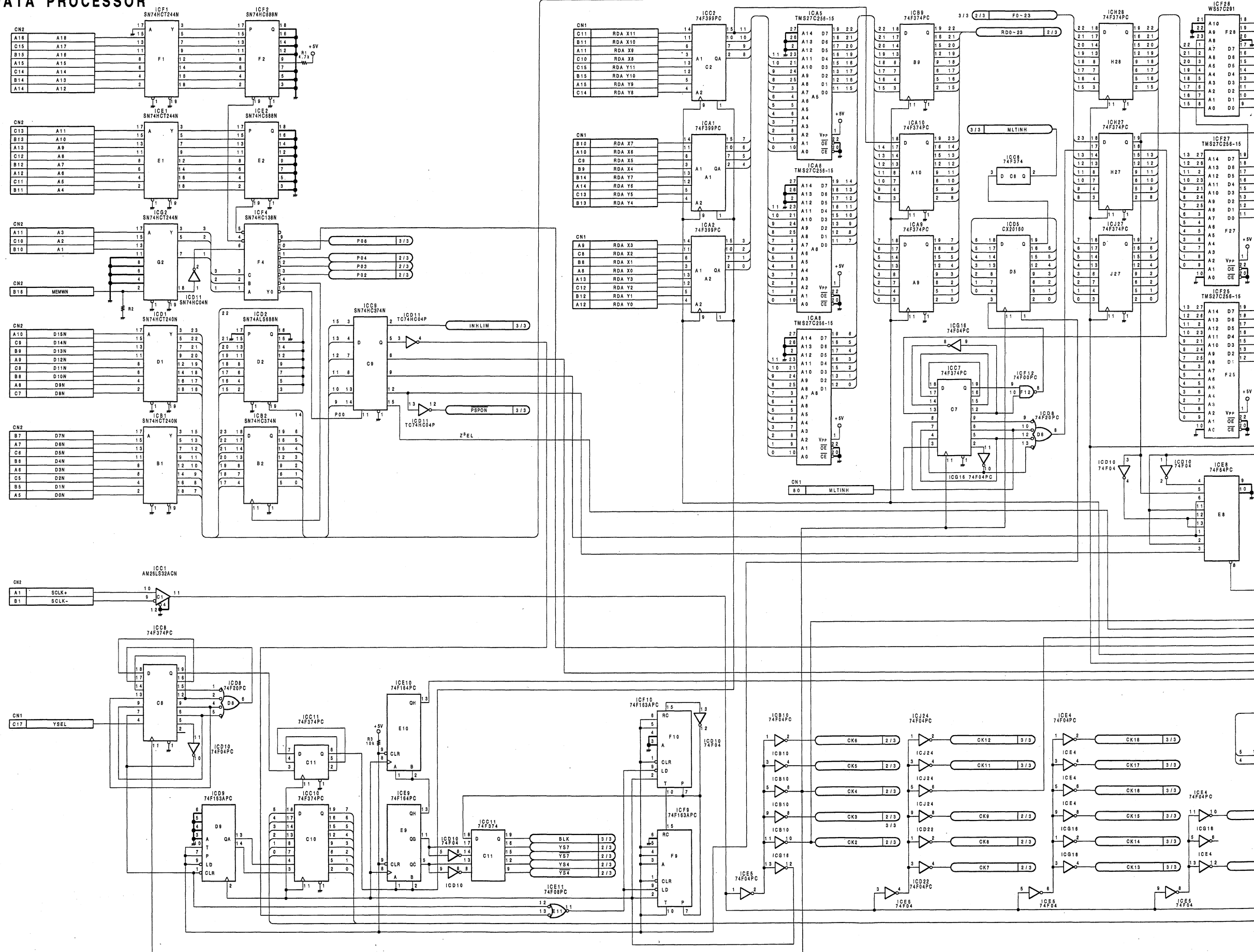
• CIRCUIT INFORMATION

| Board    | Function   | PAGE    |
|----------|--|---------|
| ALU - 11 | Real-time Numeric Data Processor                       | 8 - 4   |
| CN - 456 | Power Supply Connector Board                           | 8 - 249 |
| CN - 462 | BNC Connector Board                                    | 8 - 253 |
| CN - 463 | D SUB Connector Board                                  | 8 - 257 |
| CPU - 82 | System Control and Communications                      | 8 - 23  |
| DLP - 9  | Horizontal and Vertical Low Pass Filter                | 8 - 37  |
| DLP - 10 | IIR Vertical Low Pass Filter                           | 8 - 82  |
| DPR - 15 | Input Pixel Effect Generator and Motion Detect         | 8 - 104 |
| DPR - 16 | Output Recursive Effect Generator and Border Generator | 8 - 139 |
| DPR - 17 | Memory Address Selector and Write Address Generator    | 8 - 175 |
| DPR - 18 | Read Address Generator and Split Mirror Generator      | 8 - 201 |
| LE - 76  | Power LED Board  | —       |
| MB - 305 | Mother Board   | 8 - 263 |
| MEM - 41 | 3 Field Video Memory and Interpolator                  | 8 - 228 |

• LOCATION OF PRINTED CIRCUIT BOARDS



# ALU-11;REALTIME NUMERIC DATA PROCESSOR



8-4

8-5

A

B

C

D

E

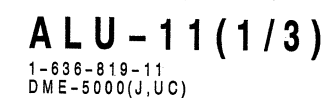
F

G

H



**ALU - 11 (1/3)**



SECTION 8  
SCHEMATIC DIAGRAMS

回路図内において、REF.NOの近傍に下記記号が記載されていますが、これは生産時の部品データです。

In the schematic diagrams, the following marks are described nearby reference number.  
These are parts data at factory.

CAPACITOR(C)

|     |   |              |
|-----|---|--------------|
| AL  | } | ELECTROLYTIC |
| AS  |   |              |
| TA  | } | TANTALUM     |
| CA  |   |              |
| CC  | } | CERAMIC      |
| CCS |   |              |
| CM  |   |              |
| CS  |   |              |
| MPS | } | MYLAR        |
| PP  |   |              |
| PS  |   |              |
| PT  |   |              |
| MD  | } | DIPPED MICA  |
| MS  |   |              |
|     |   | MICA         |

RESISTOR(R)

VARIABLE RESISTOR(RV)

|    |   |           |
|----|---|-----------|
| RC | } | CARBON    |
| RD |   |           |
| RF | } | FUSE      |
| RN |   |           |
| RS | } | METAL     |
| RW |   |           |
|    |   | WIREWOUND |

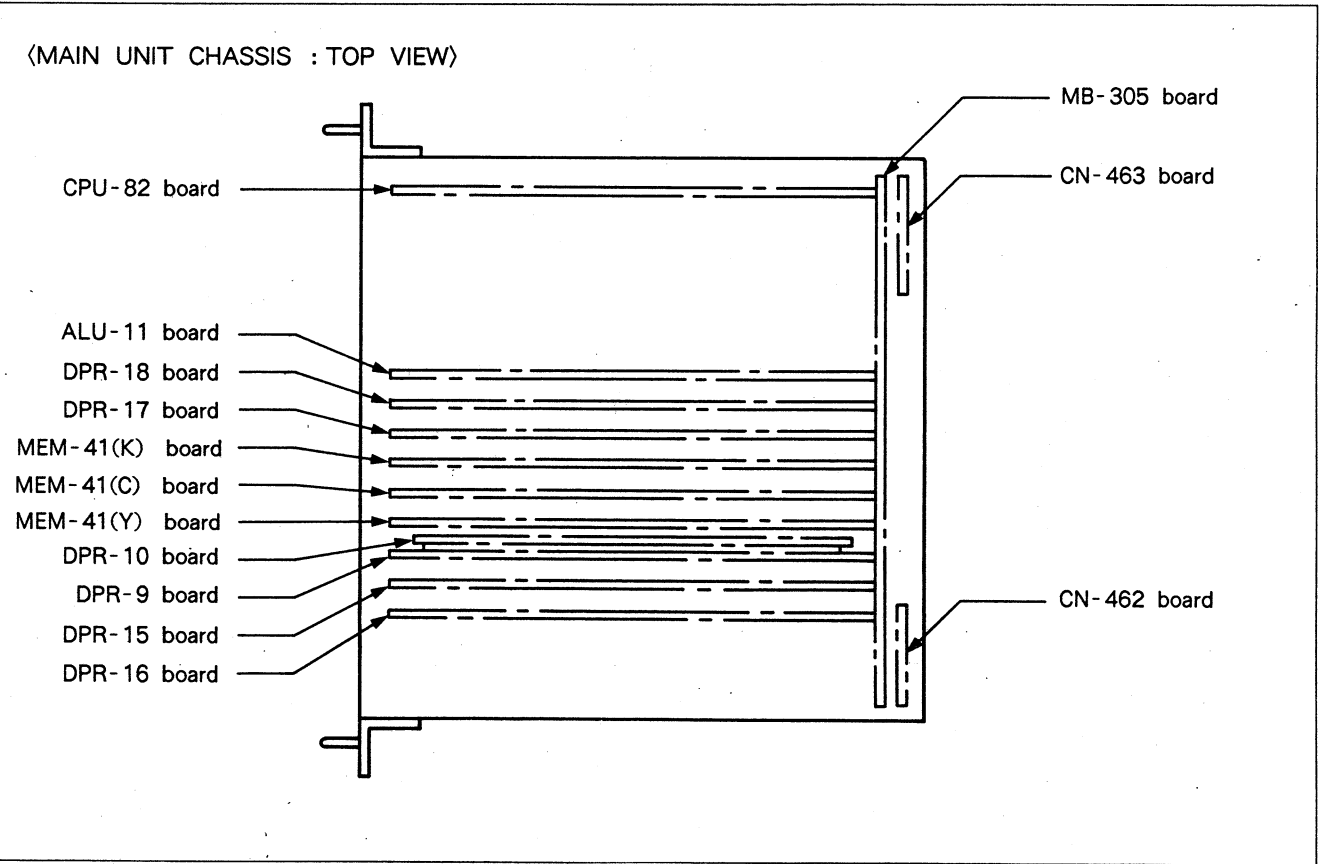
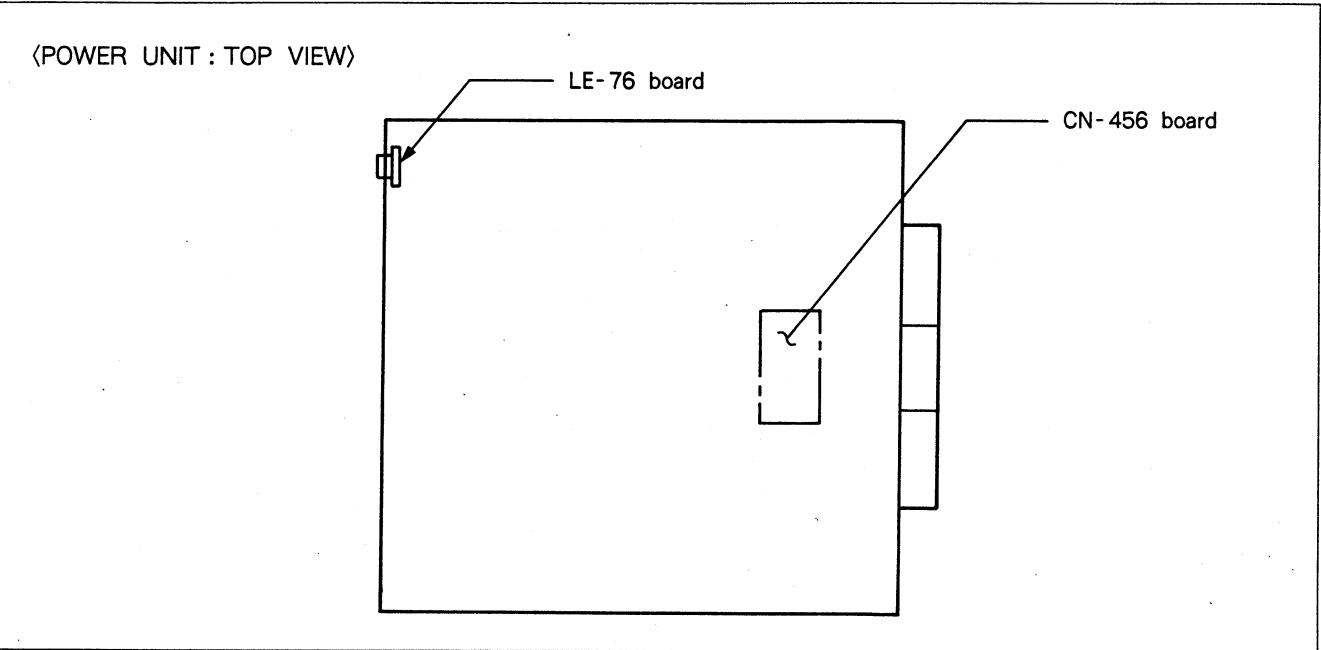
• CIRCUIT INFORMATION

| Board    | Function   | PAGE    |
|----------|--|---------|
| ALU - 11 | Real-time Numeric Data Processor                       | 8 - 4   |
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| CN - 462 | BNC Connector Board                                    | 8 - 253 |
| CN - 463 | D SUB Connector Board                                  | 8 - 257 |
| CPU - 82 | System Control and Communications                      | 8 - 23  |
| DLP - 9  | Horizontal and Vertical Low Pass Filter                | 8 - 37  |
| DLP - 10 | IIR Vertical Low Pass Filter                           | 8 - 82  |
| DPR - 15 | Input Pixel Effect Generator and Motion Detect         | 8 - 104 |
| DPR - 16 | Output Recursive Effect Generator and Border Generator | 8 - 139 |
| DPR - 17 | Memory Address Selector and Write Address Generator    | 8 - 175 |
| DPR - 18 | Read Address Generator and Split Mirror Generator      | 8 - 201 |
| LE - 76  | Power LED Board  | —       |
| MB - 305 | Mother Board   | 8 - 263 |
| MEM - 41 | 3 Field Video Memory and Interpolator                  | 8 - 228 |

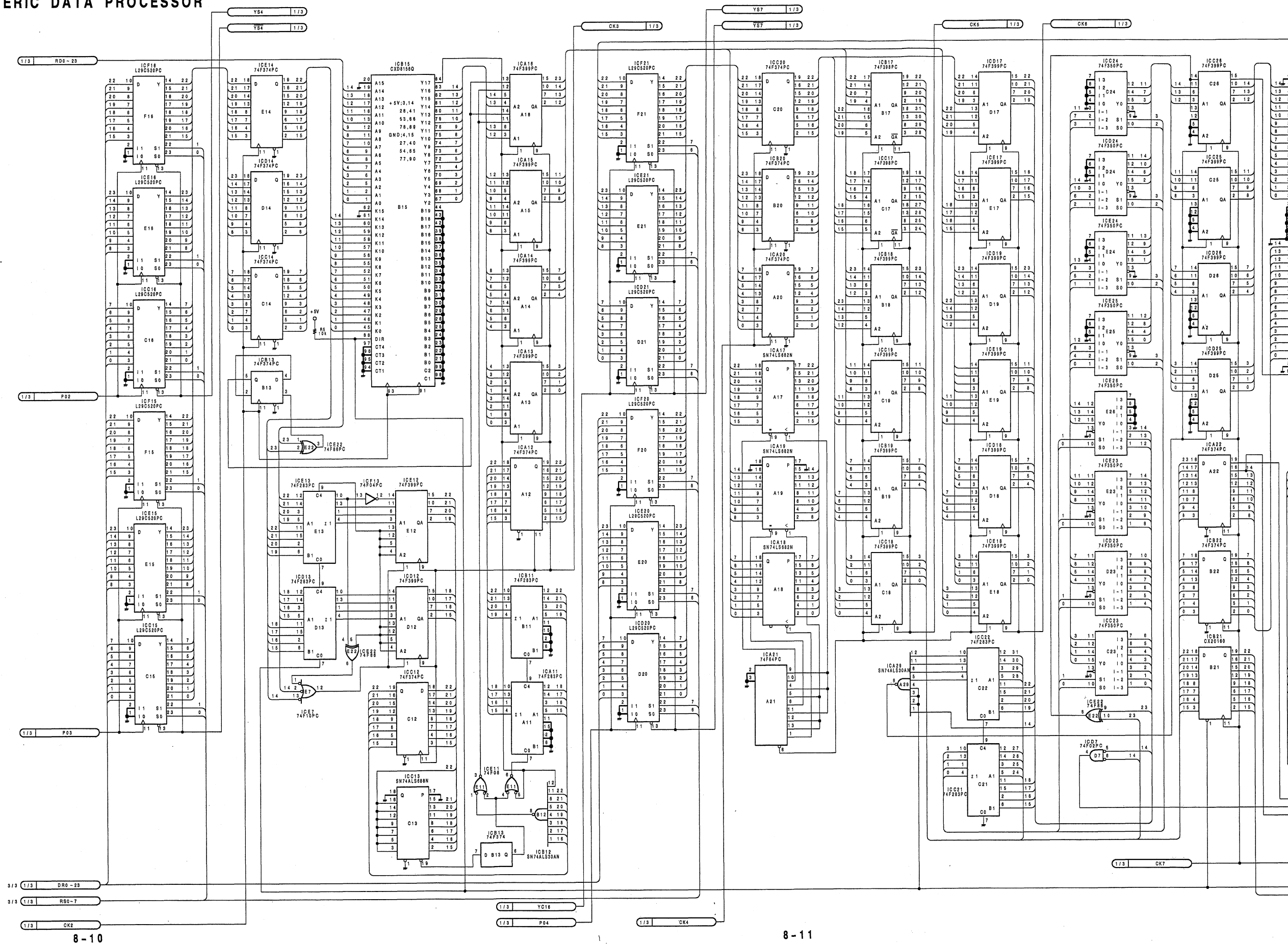
• CIRCUIT INFORMATION

| Board    | Function   | PAGE    |
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| ALU - 11 | Real-time Numeric Data Processor                       | 8 - 4   |
| CN - 456 | Power Supply Connector Board                           | 8 - 249 |
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| DPR - 18 | Read Address Generator and Split Mirror Generator      | 8 - 201 |
| LE - 76  | Power LED Board  | —       |
| MB - 305 | Mother Board   | 8 - 263 |
| MEM - 41 | 3 Field Video Memory and Interpolator                  | 8 - 228 |

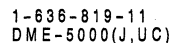
• LOCATION OF PRINTED CIRCUIT BOARDS



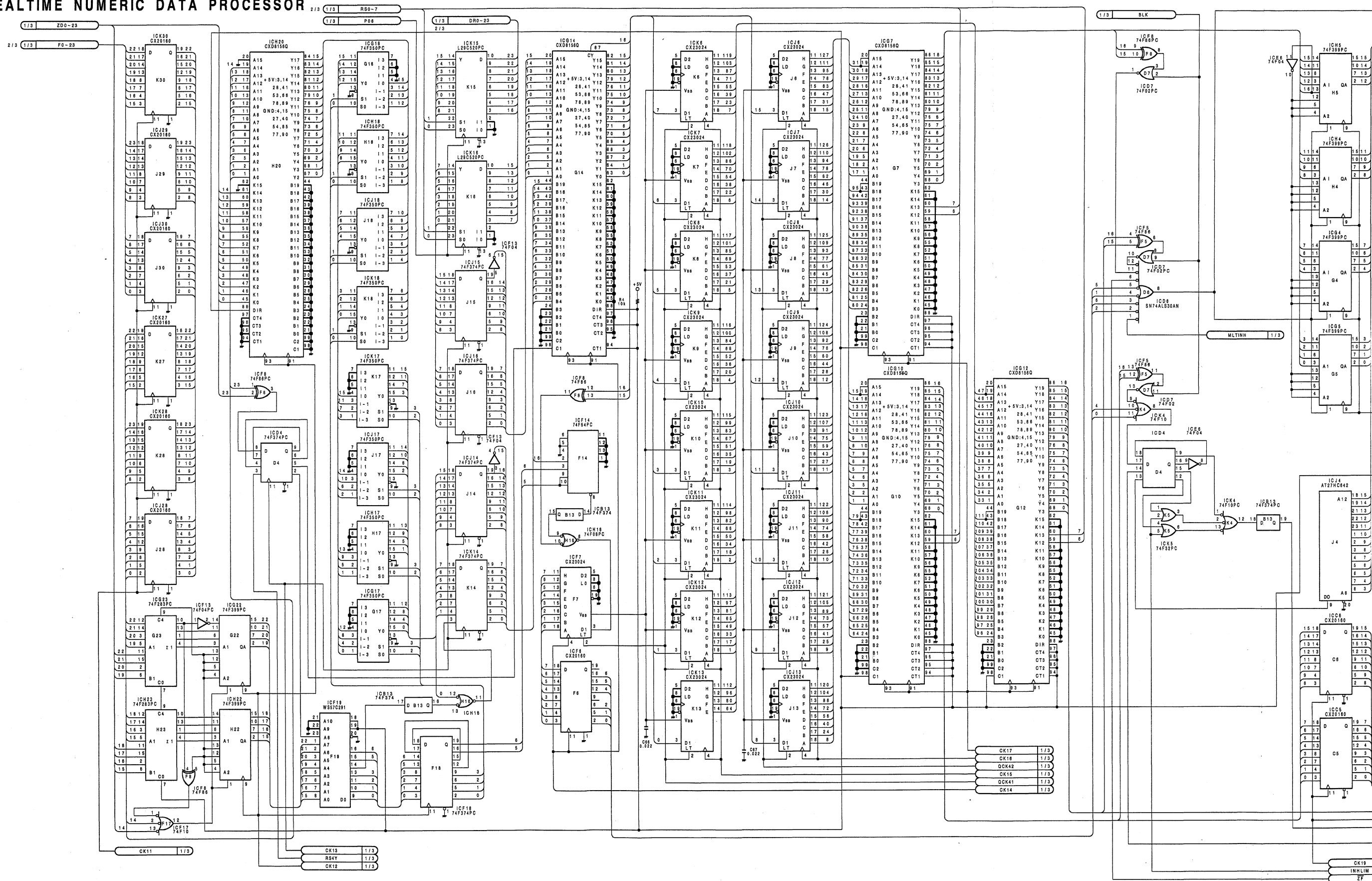
ALU-11;REALTIME NUMERIC DATA PROCESSOR



**ALU-11(2/3)**

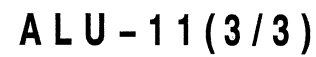


ALU-11;REALTIME NUMERIC DATA PROCESSOR



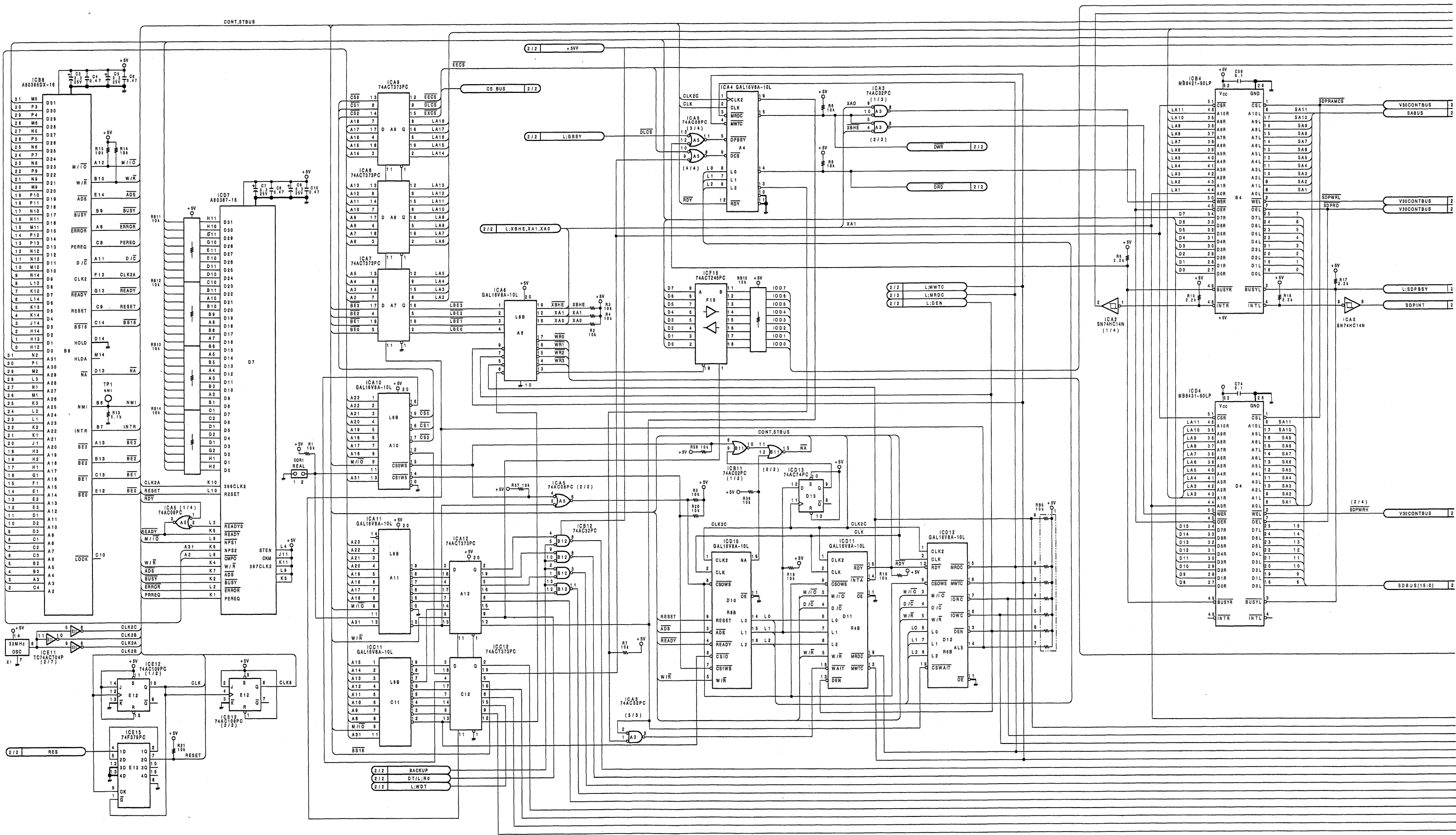


ALU-11(3/3)      ALU-11(3/3)



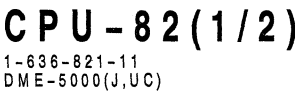
1-636-819-11  
DME-5000(J,UC)

CPU-82;SYSTEM CONTROL AND COMMUNICATION

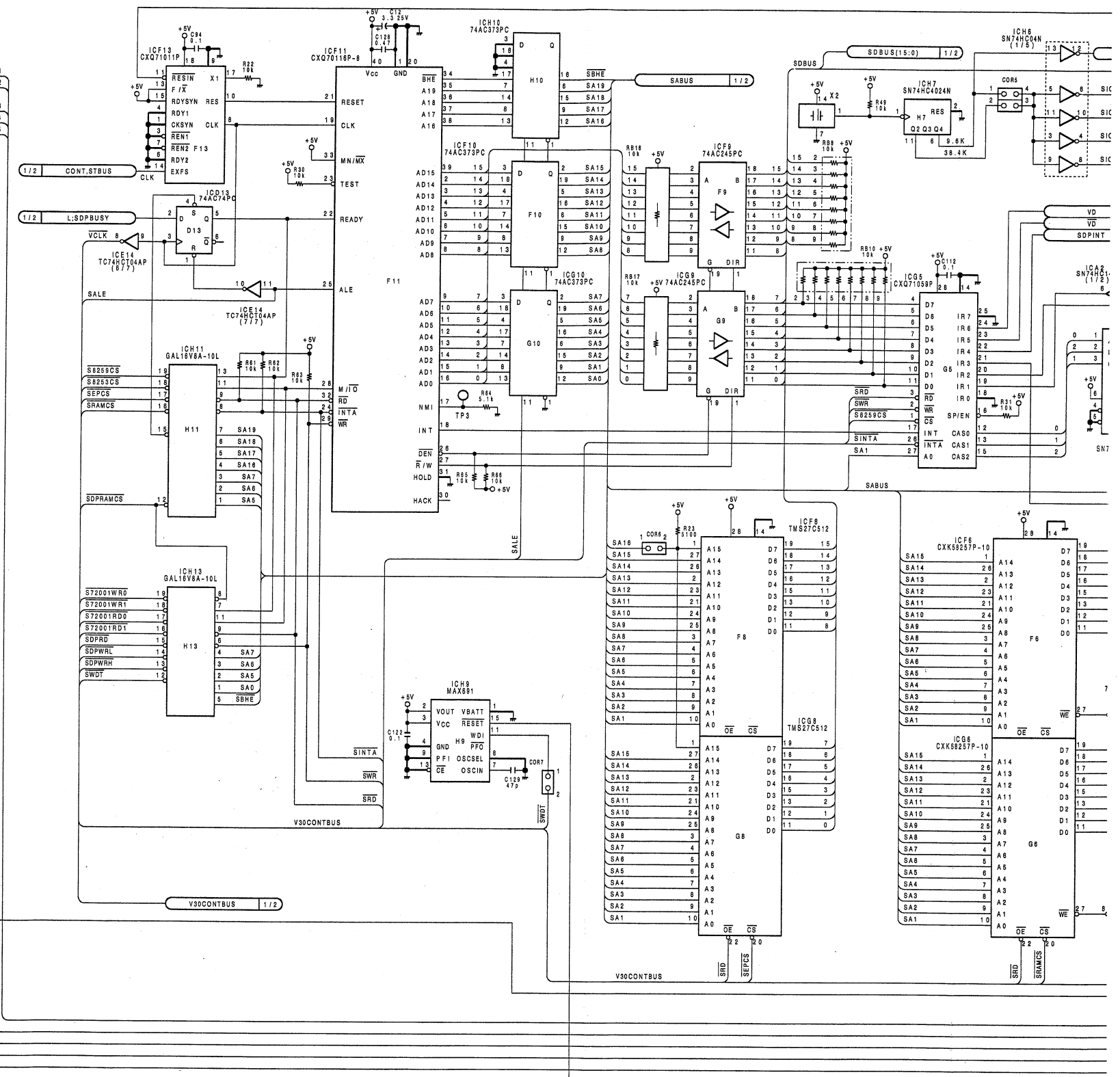
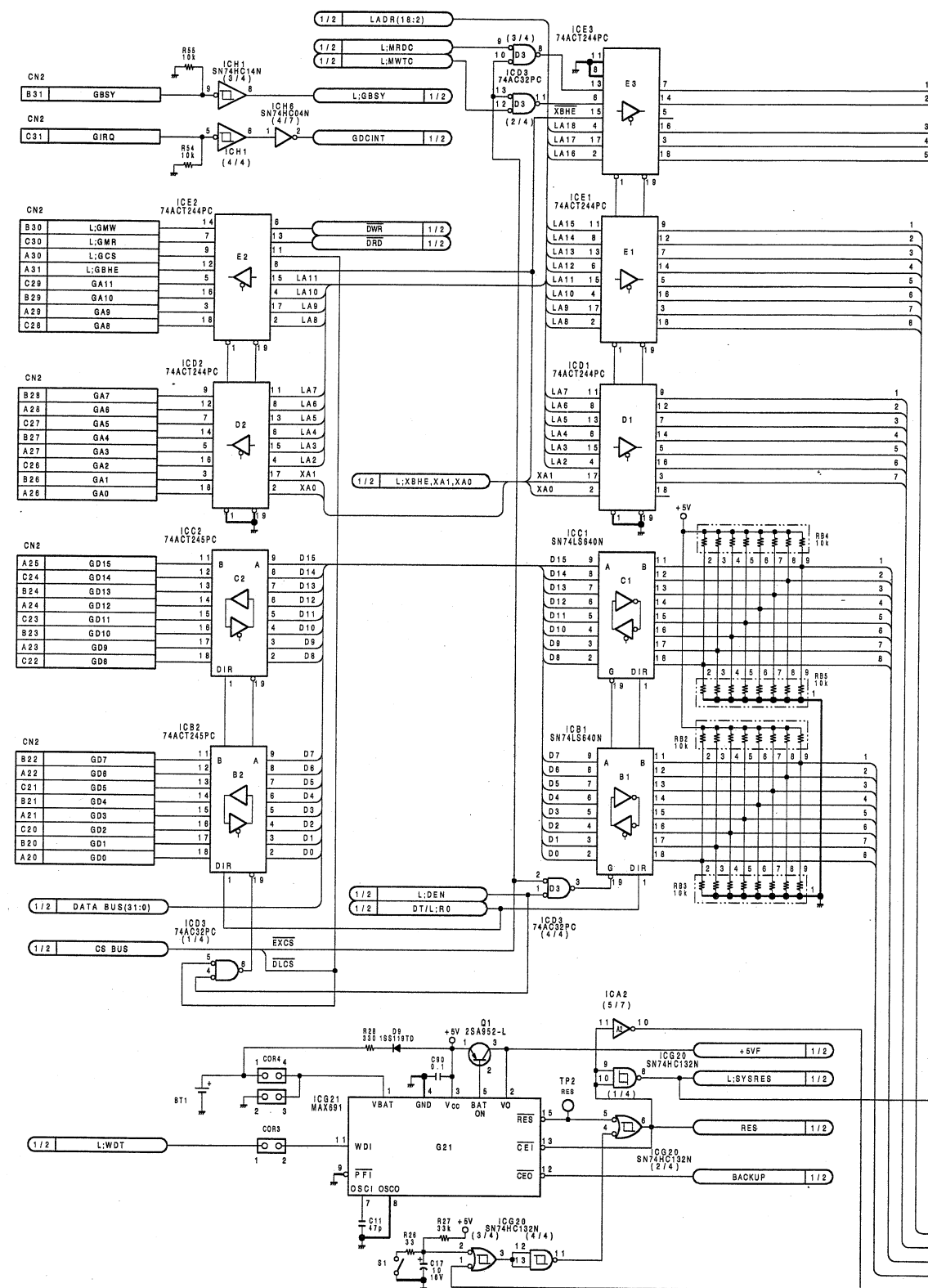




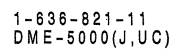
CPU-82(1/2) CPU-82(1/2)



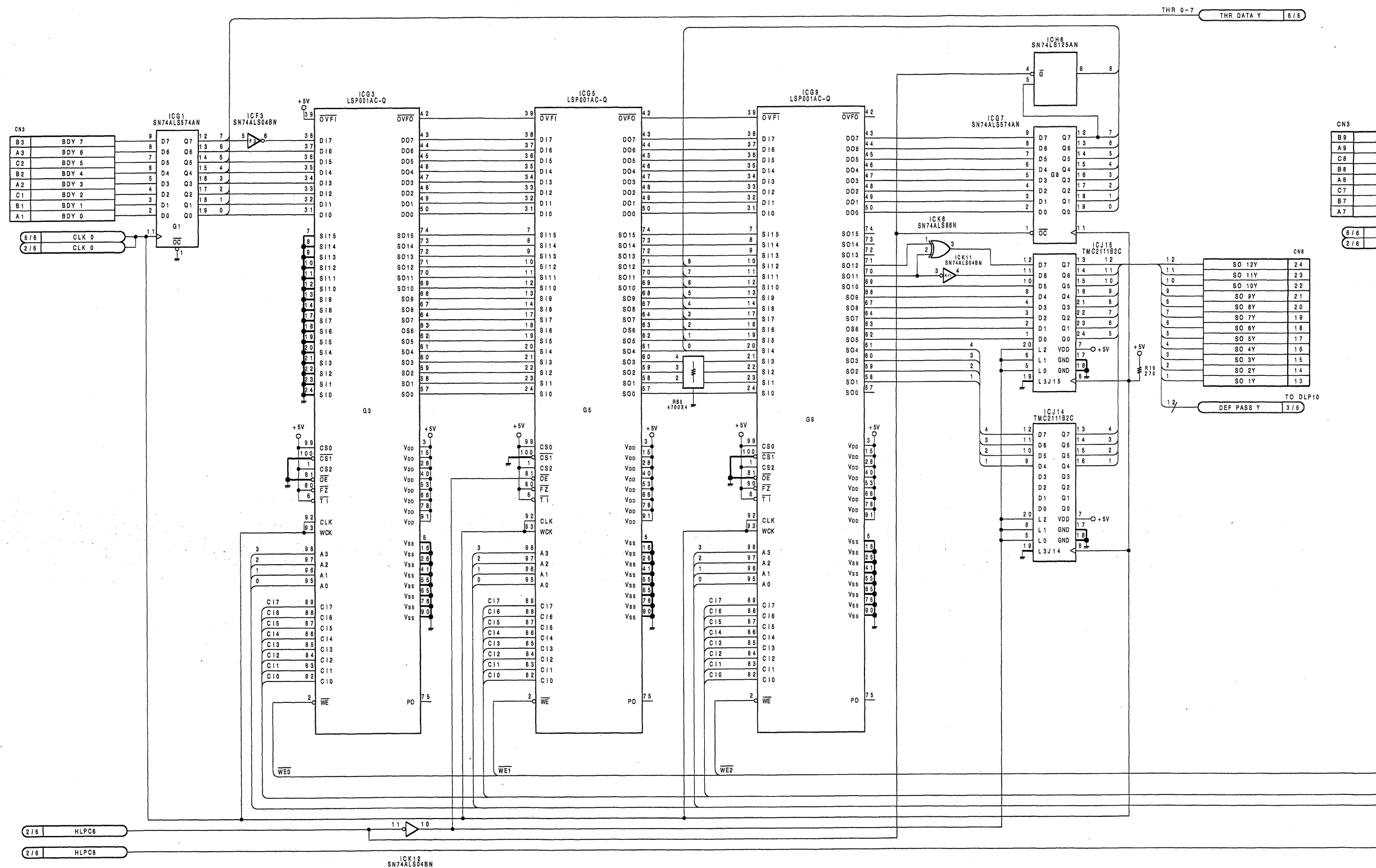
## CPU-82;SYSTEM CONTROL AND COMMUNICATION



**C P U - 8 2 ( 2 / 2 )**



### DLP-9; HORIZONTAL AND VERTICAL LOW PASS FILTER



# DLP-9(1/6) DLP-9(1/6)

THR DATA Y 8/8

THR 0-7 THR DATA K 8/8

| CN8    |    |  |
|--------|----|--|
| SO 12Y | 24 |  |
| SO 11Y | 23 |  |
| SO 10Y | 22 |  |
| SO 9Y  | 21 |  |
| SO 8Y  | 20 |  |
| SO 7Y  | 19 |  |
| SO 6Y  | 18 |  |
| SO 5Y  | 17 |  |
| SO 4Y  | 16 |  |
| SO 3Y  | 15 |  |
| SO 2Y  | 14 |  |
| SO 1Y  | 13 |  |

TO DLP10  
DEF PASS Y 3/8

| CN8    |    |  |
|--------|----|--|
| SO 12K | 12 |  |
| SO 11K | 11 |  |
| SO 10K | 10 |  |
| SO 9K  | 9  |  |
| SO 8K  | 8  |  |
| SO 7K  | 7  |  |
| SO 6K  | 6  |  |
| SO 5K  | 5  |  |
| SO 4K  | 4  |  |
| SO 3K  | 3  |  |
| SO 2K  | 2  |  |
| SO 1K  | 1  |  |

TO DLP10  
DEF PASS K 5/8

|            |     |
|------------|-----|
| H WE       | 2/8 |
| H COEF.K   | 2/8 |
| H COEF.Y   | 2/8 |
| H COEF.ADR | 2/8 |

DLP-9(1/6)  
1-636-817-11  
DME-5000(J,UC)

8-39

8-40

I

J

K

L

M

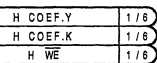
N

O

P

THR 0~7      THR DATA C      6 / 6

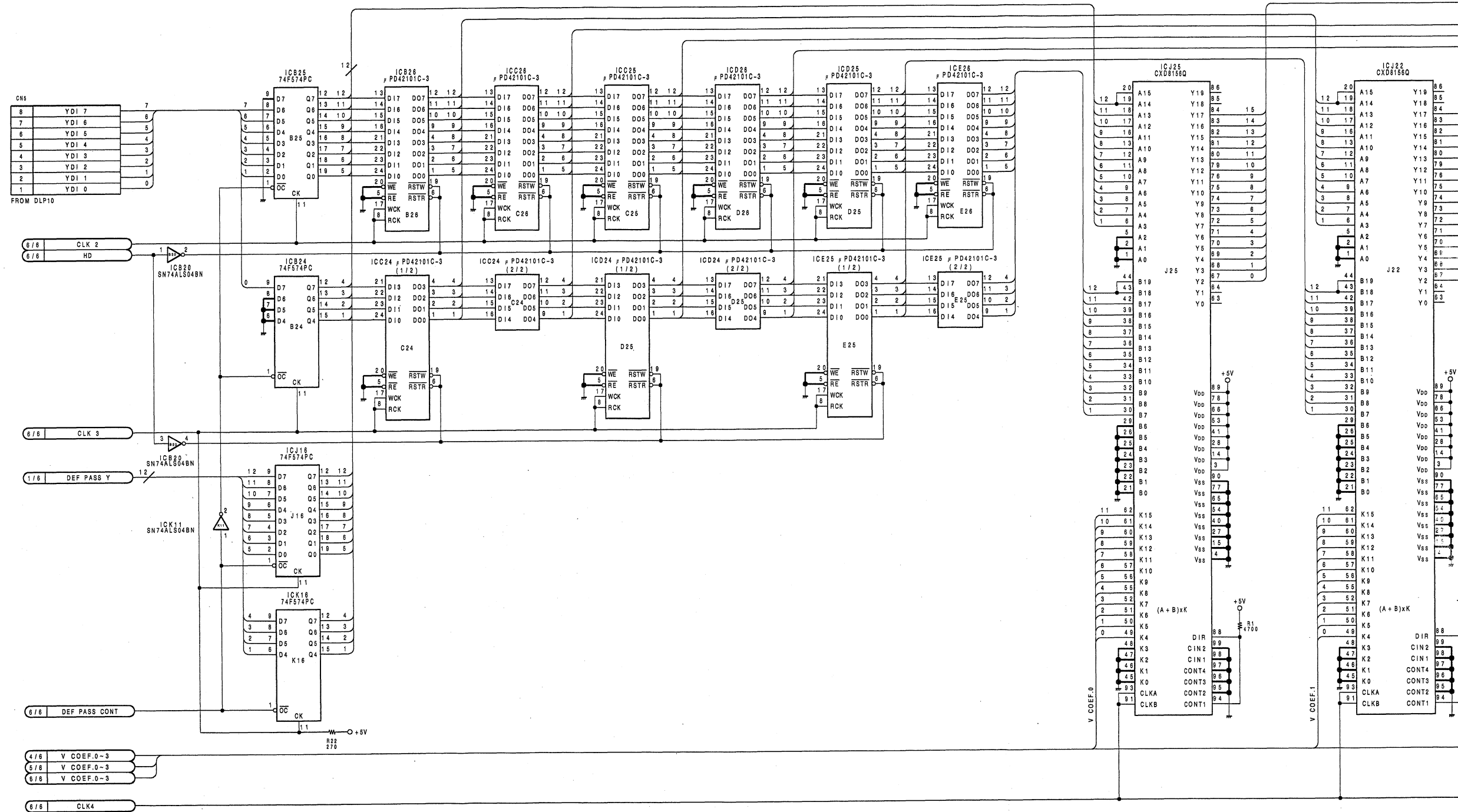




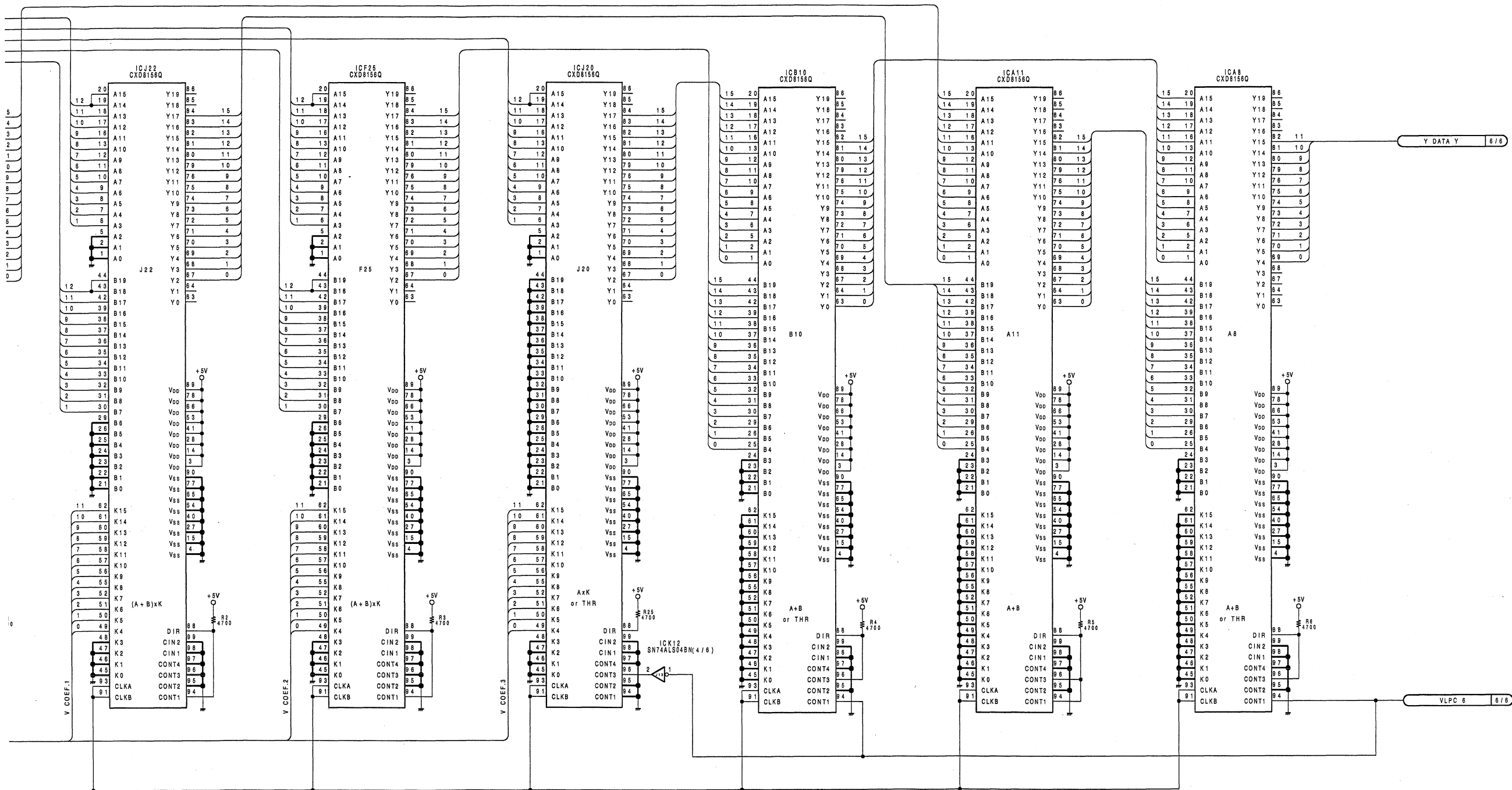
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DME-5000(J,UC)



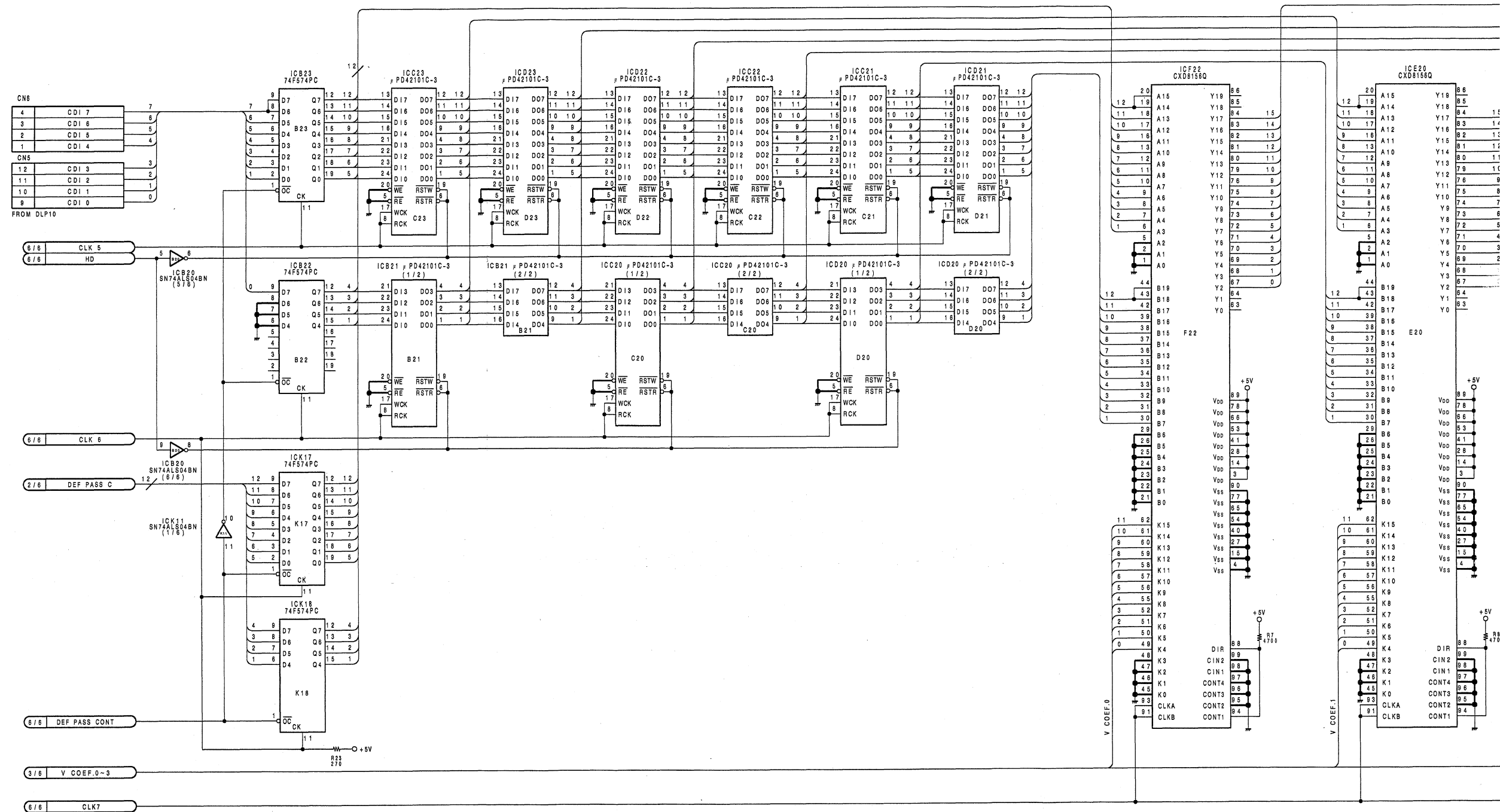
DLP-9;HORIZONTAL AND VERTICAL LOW PASS FILTER

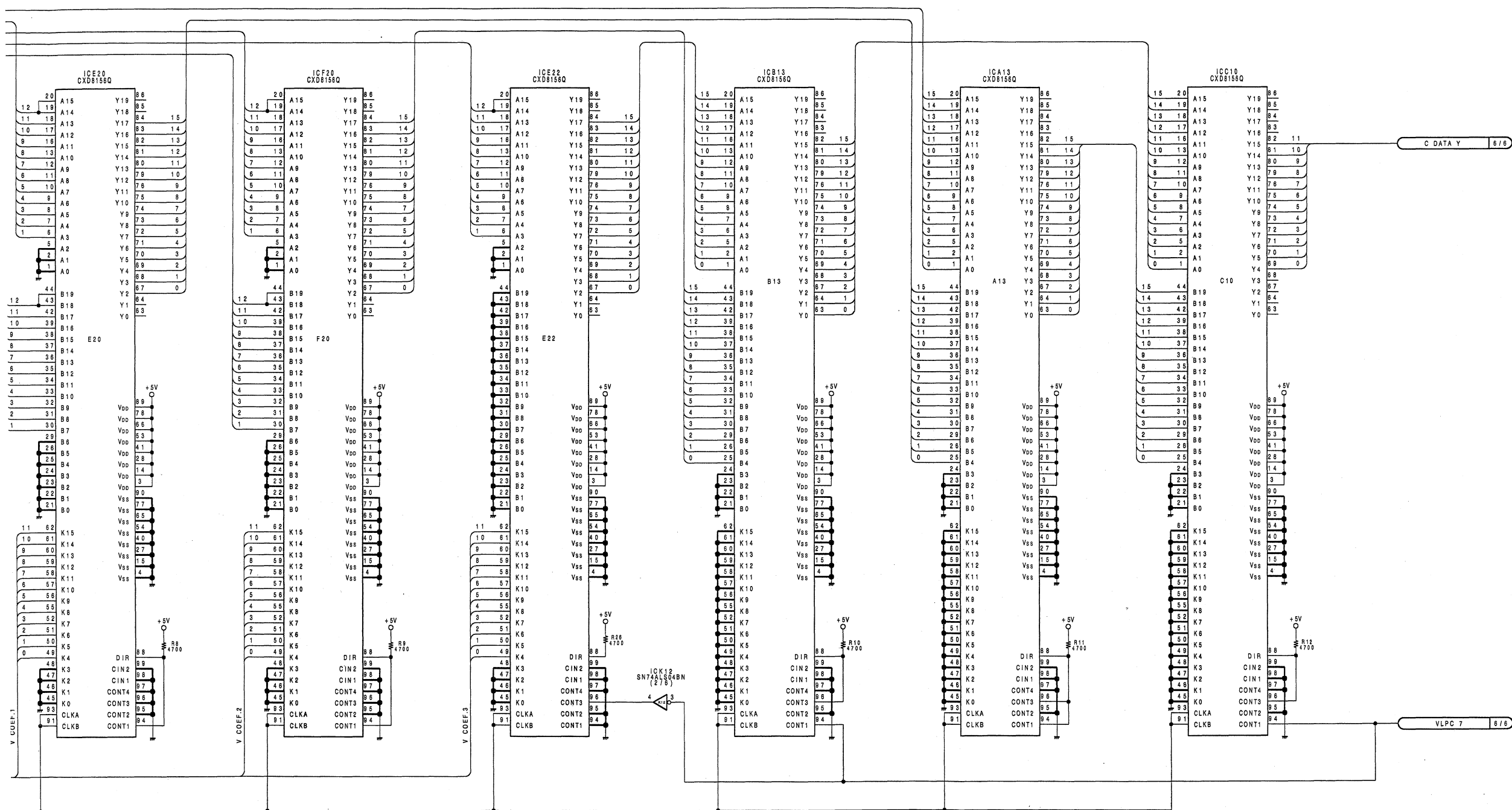






DLP-9;HORIZONTAL AND VERTICAL LOW PASS FILTER

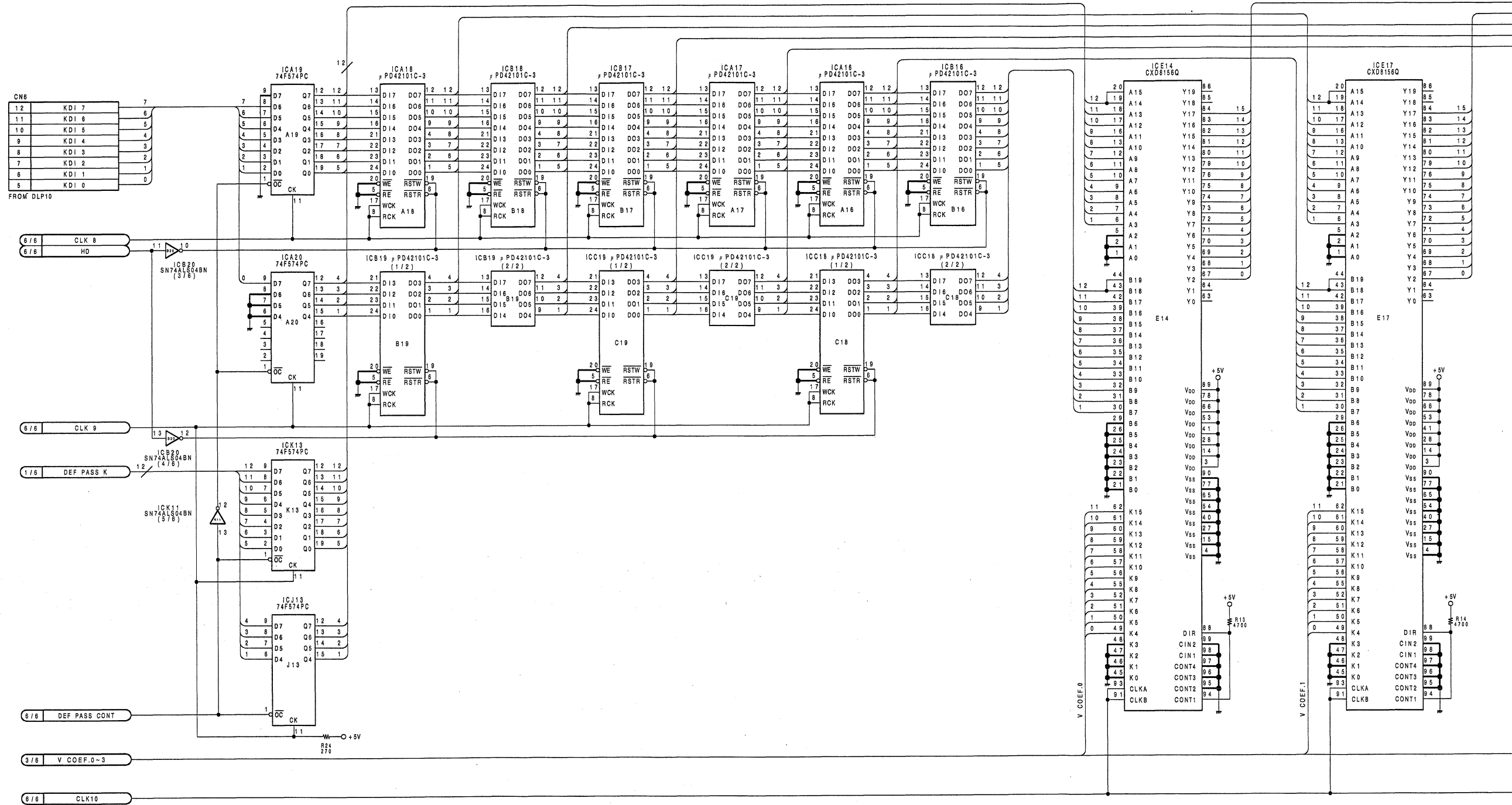


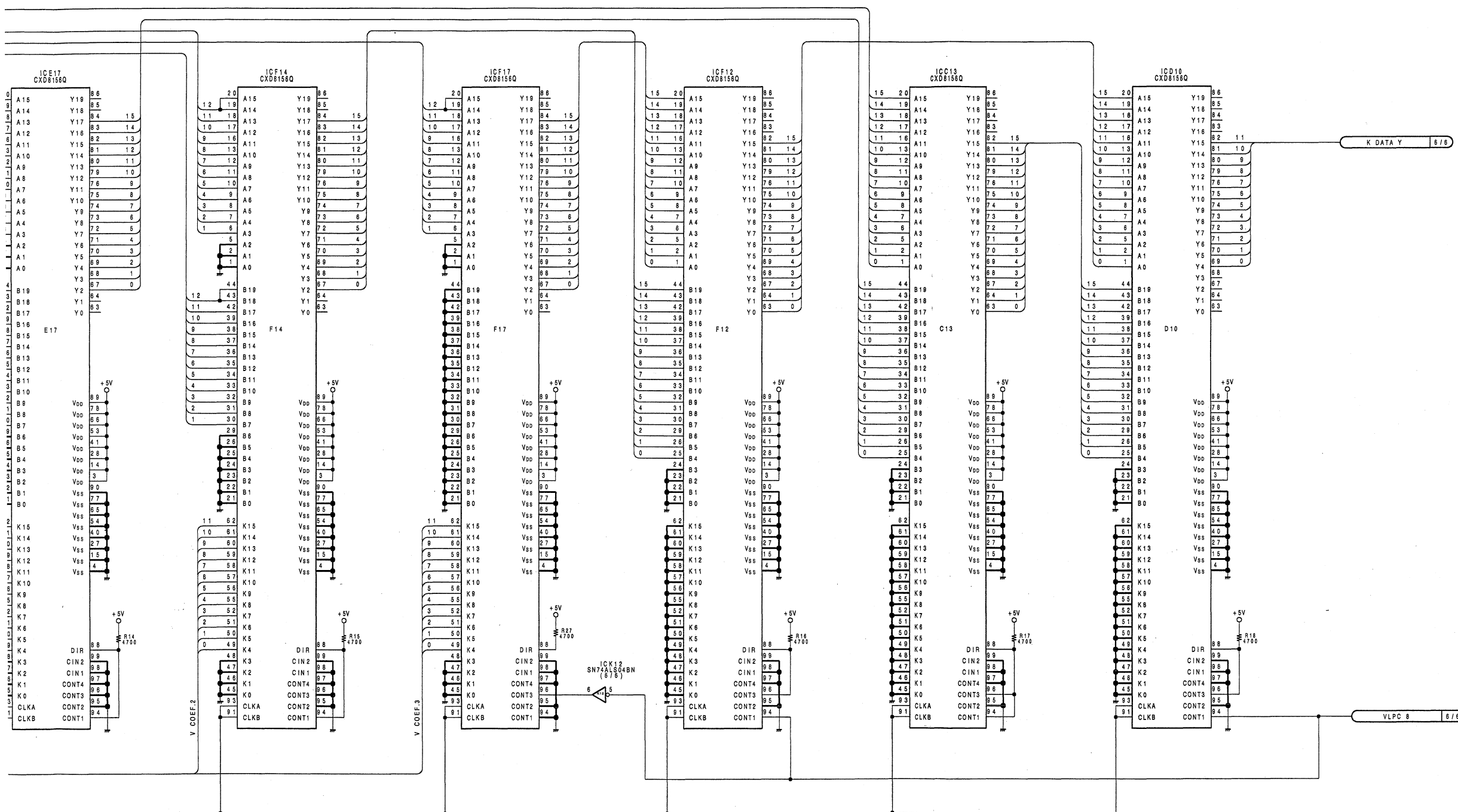


DLP-9(4/6)

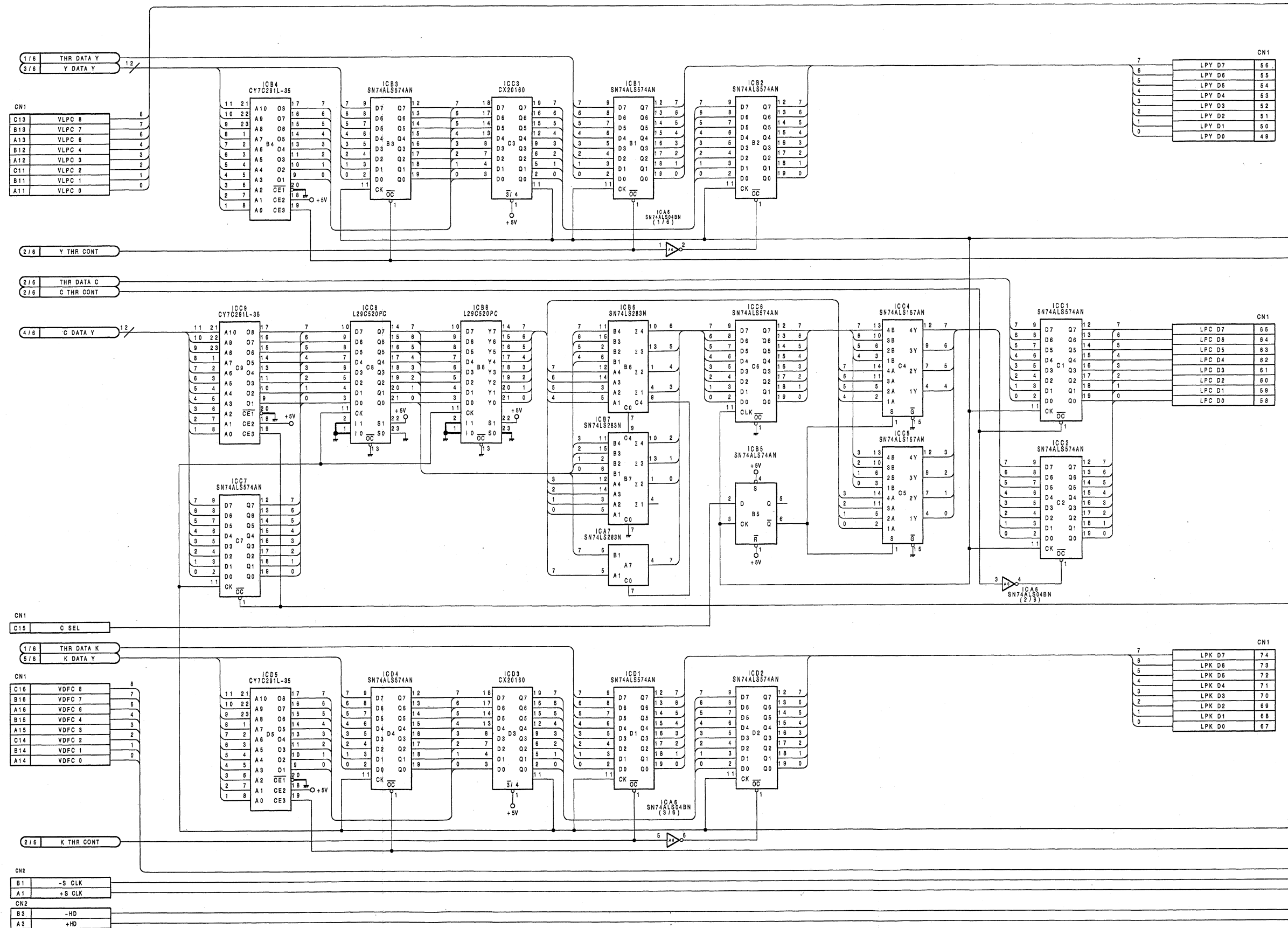
1-836-817-11  
DME-5000(J,U,C)

### DLP-9; HORIZONTAL AND VERTICAL LOW PASS FILTER

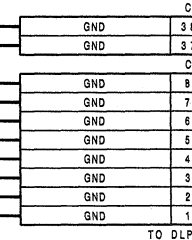




### DLP-9; HORIZONTAL AND VERTICAL LOW PASS FILTER

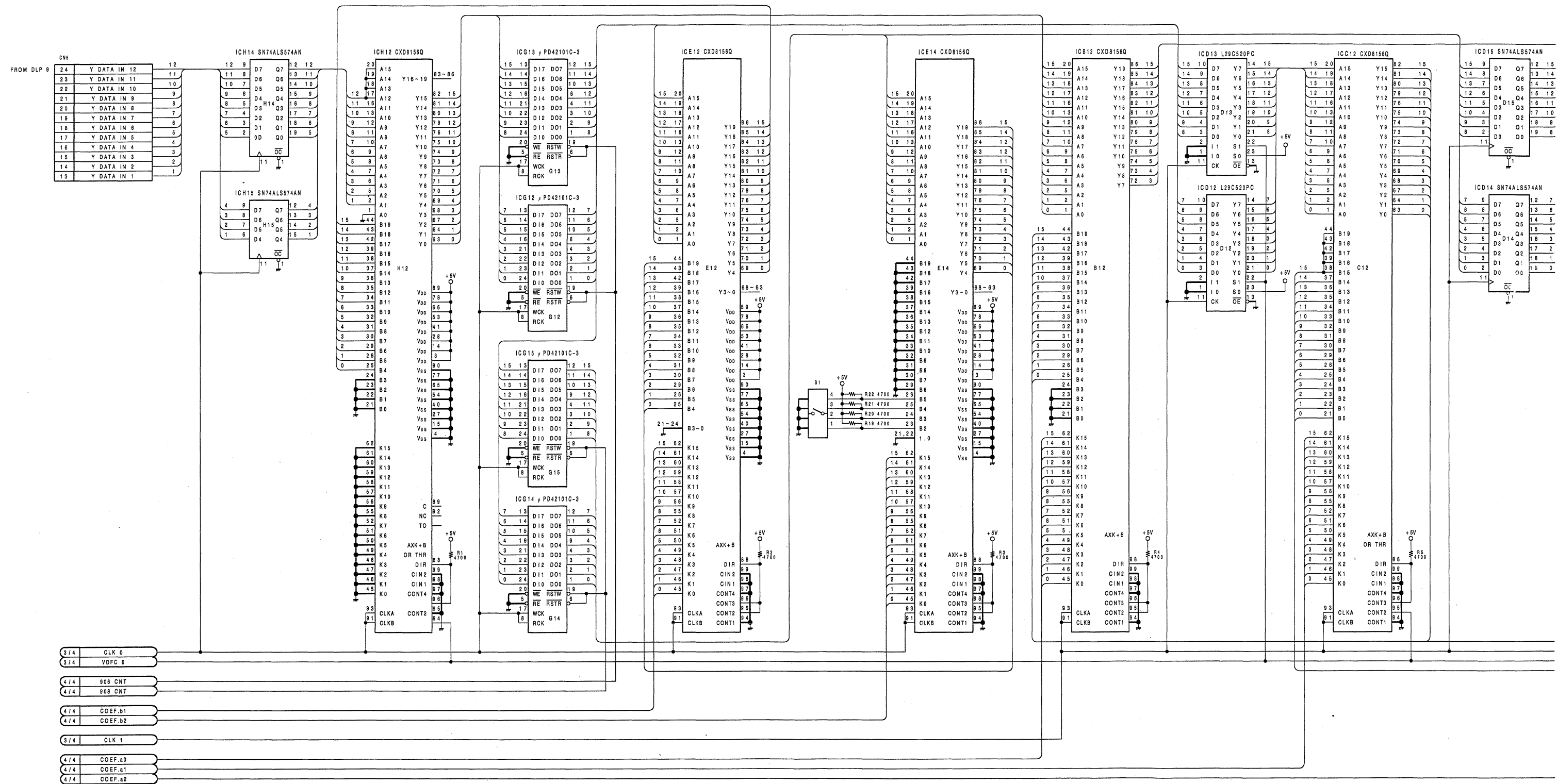


**D L P - 9 ( 6 / 6 )**

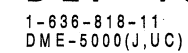


1-636-817-11  
DME-5000(J,UC)

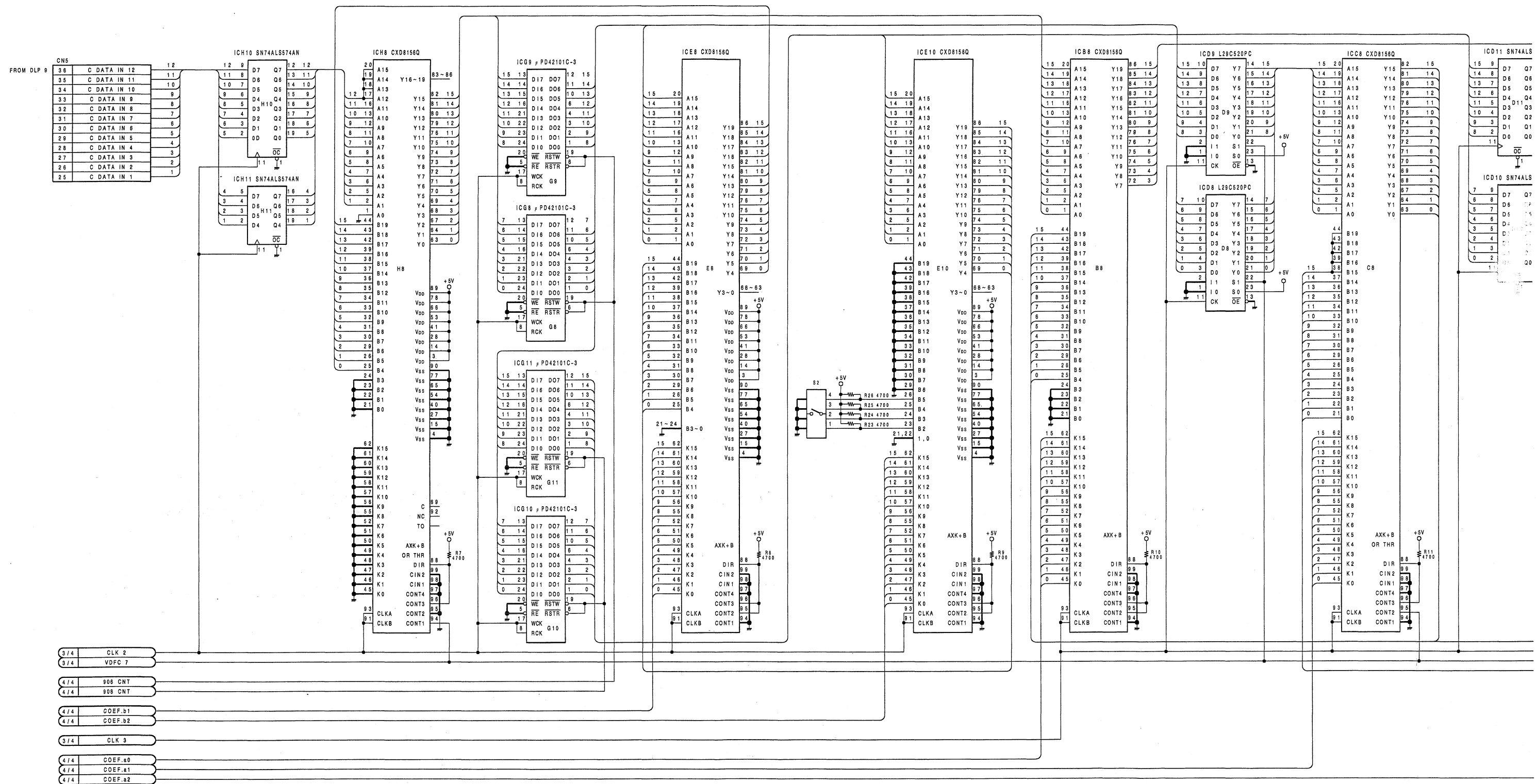
## DLP-10; IIR VERTICAL LOW PASS FILTER

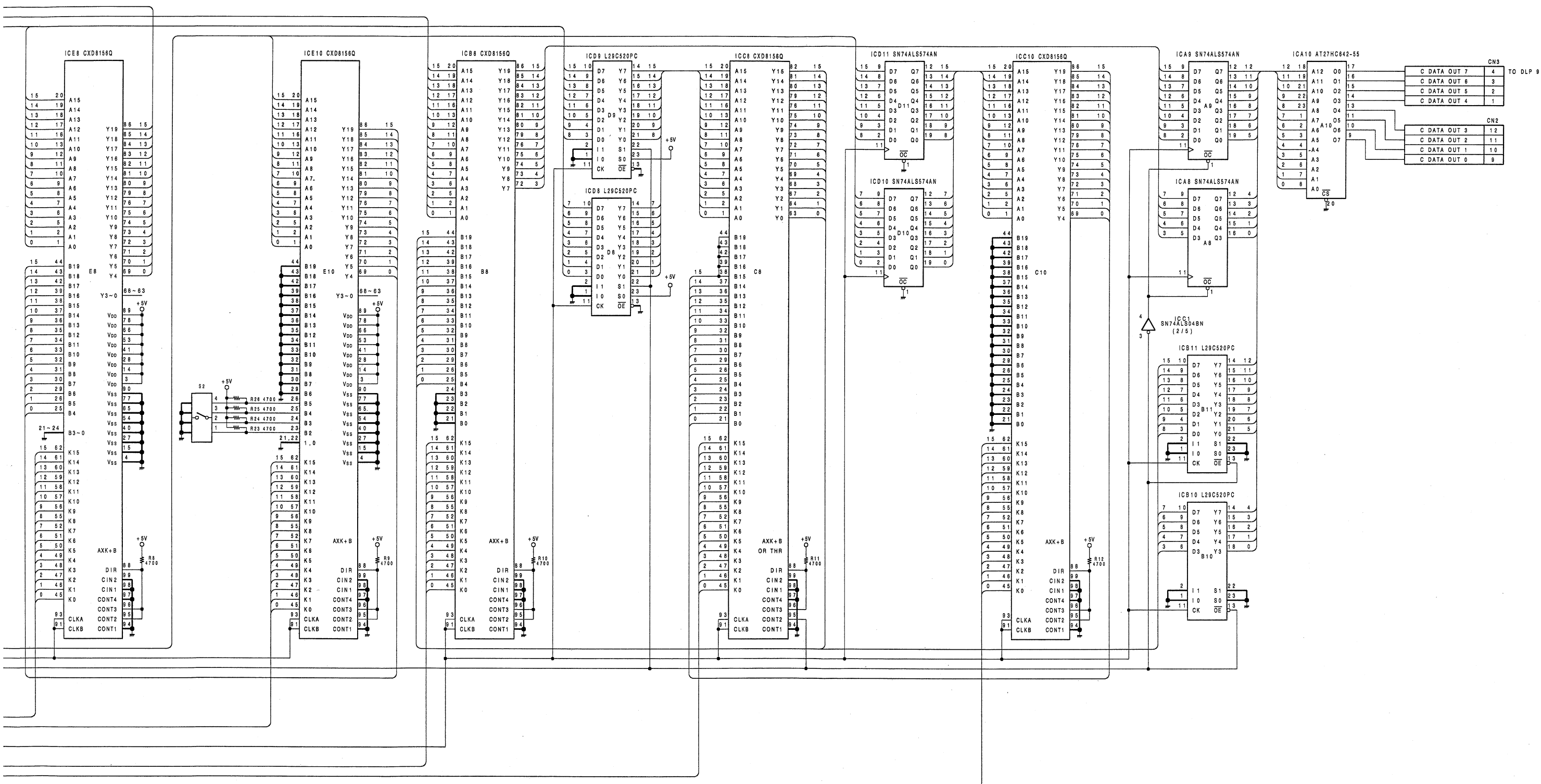






## DLP-10; IIR VERTICAL LOW PASS FILTER

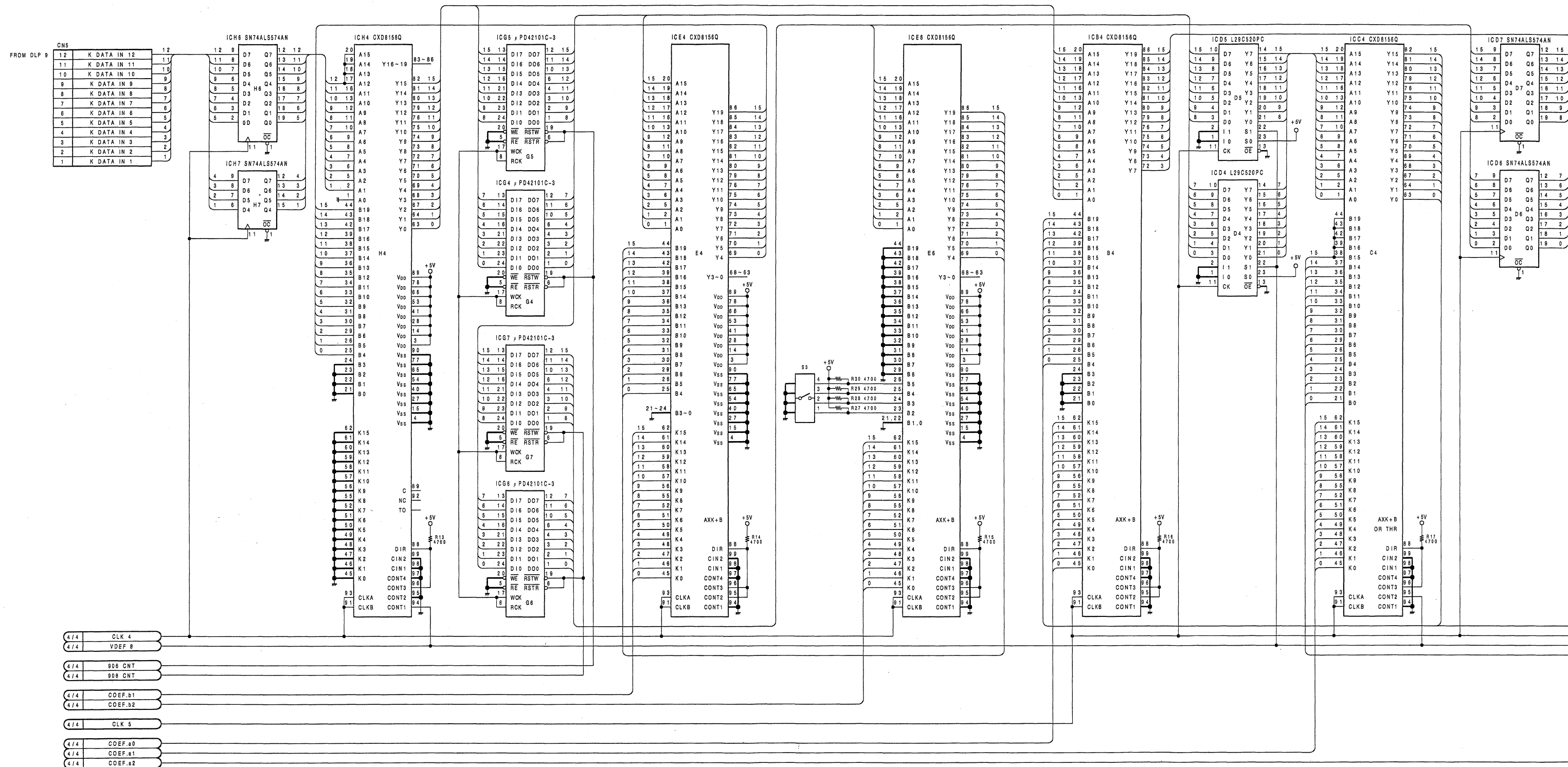


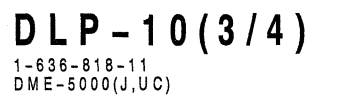


DLP-10(2/4)

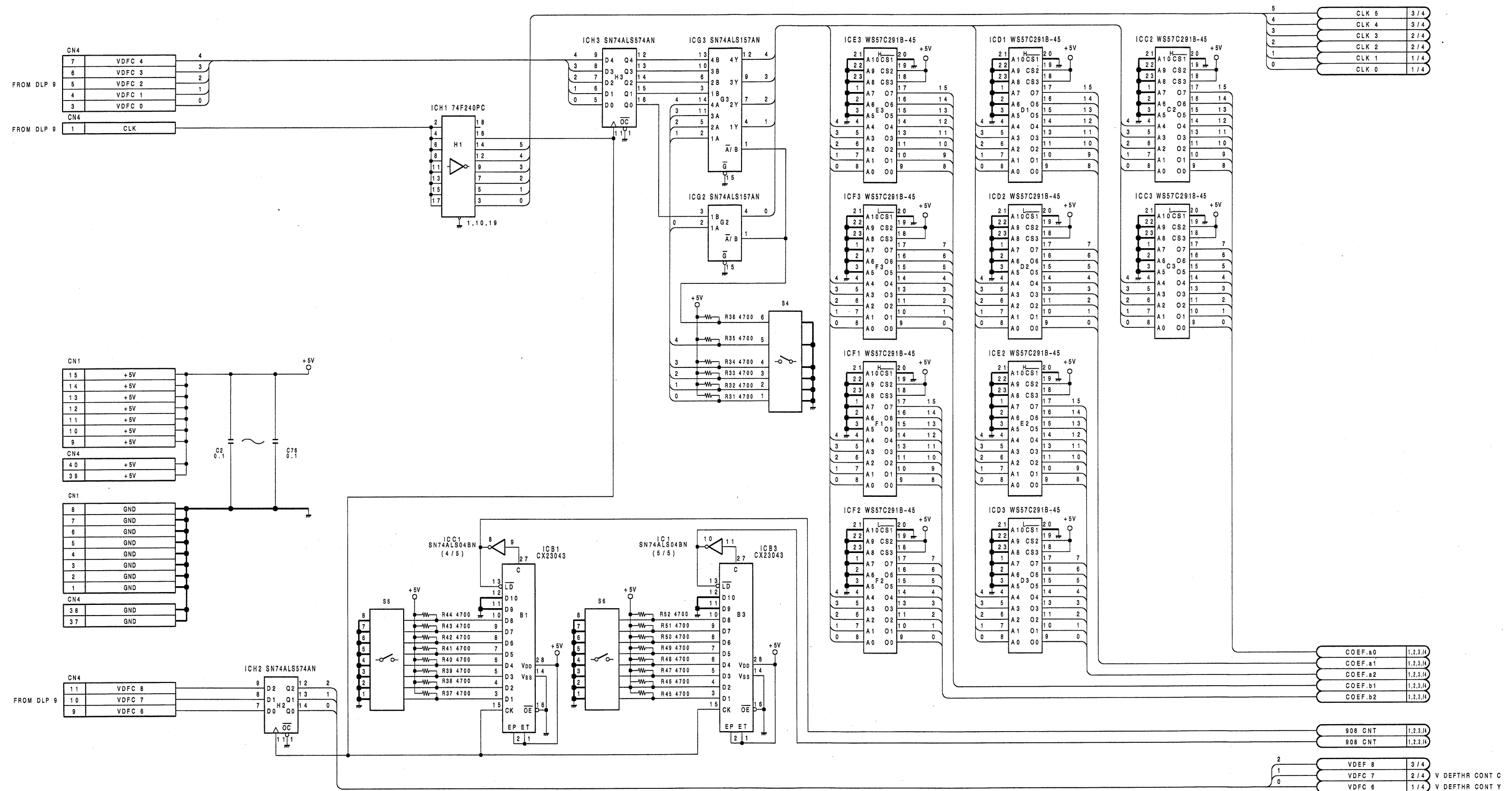
1-636-818-11  
DME-5000(J,UC)

## DLP-10; IIR VERTICAL LOW PASS FILTER



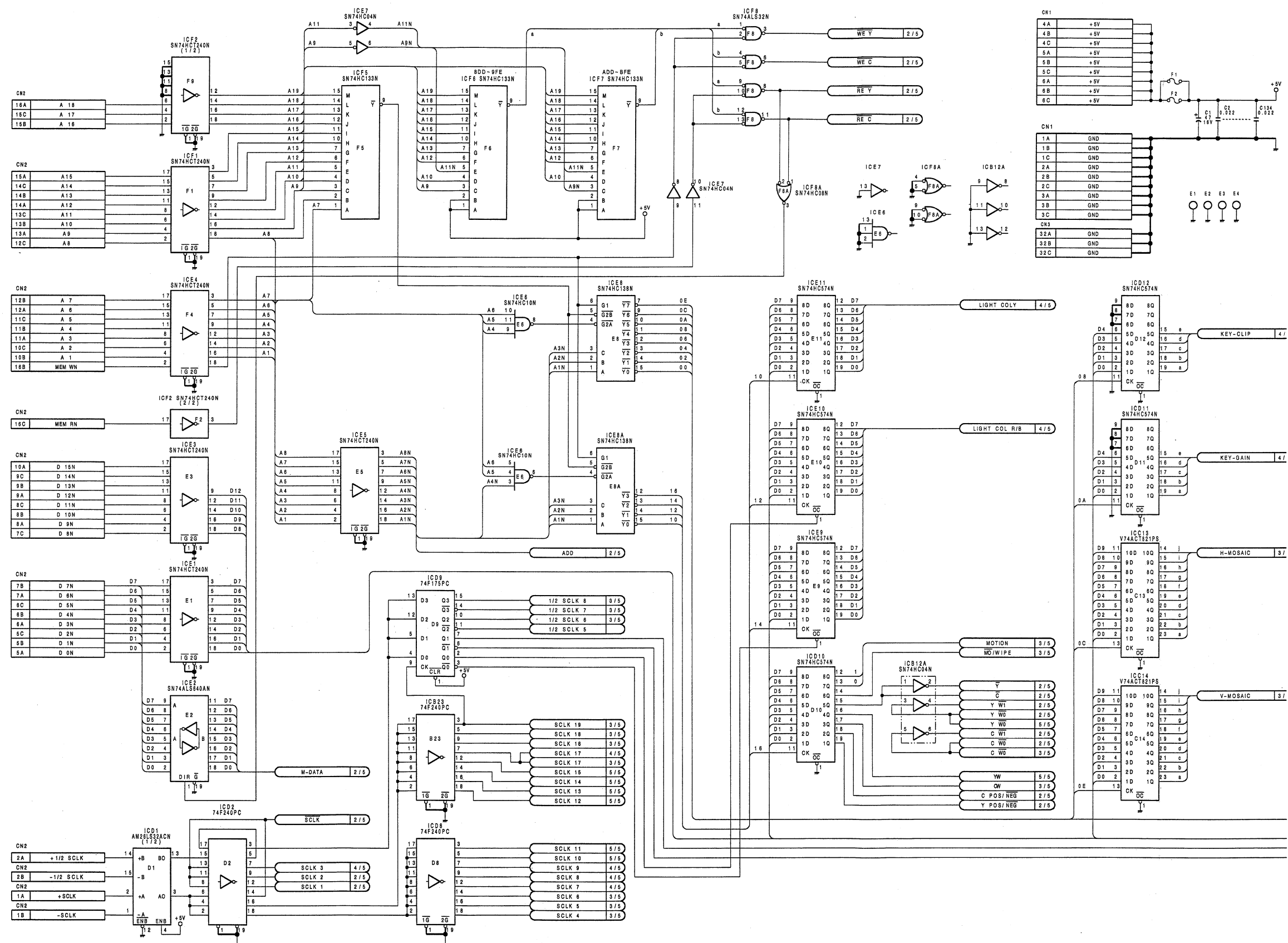


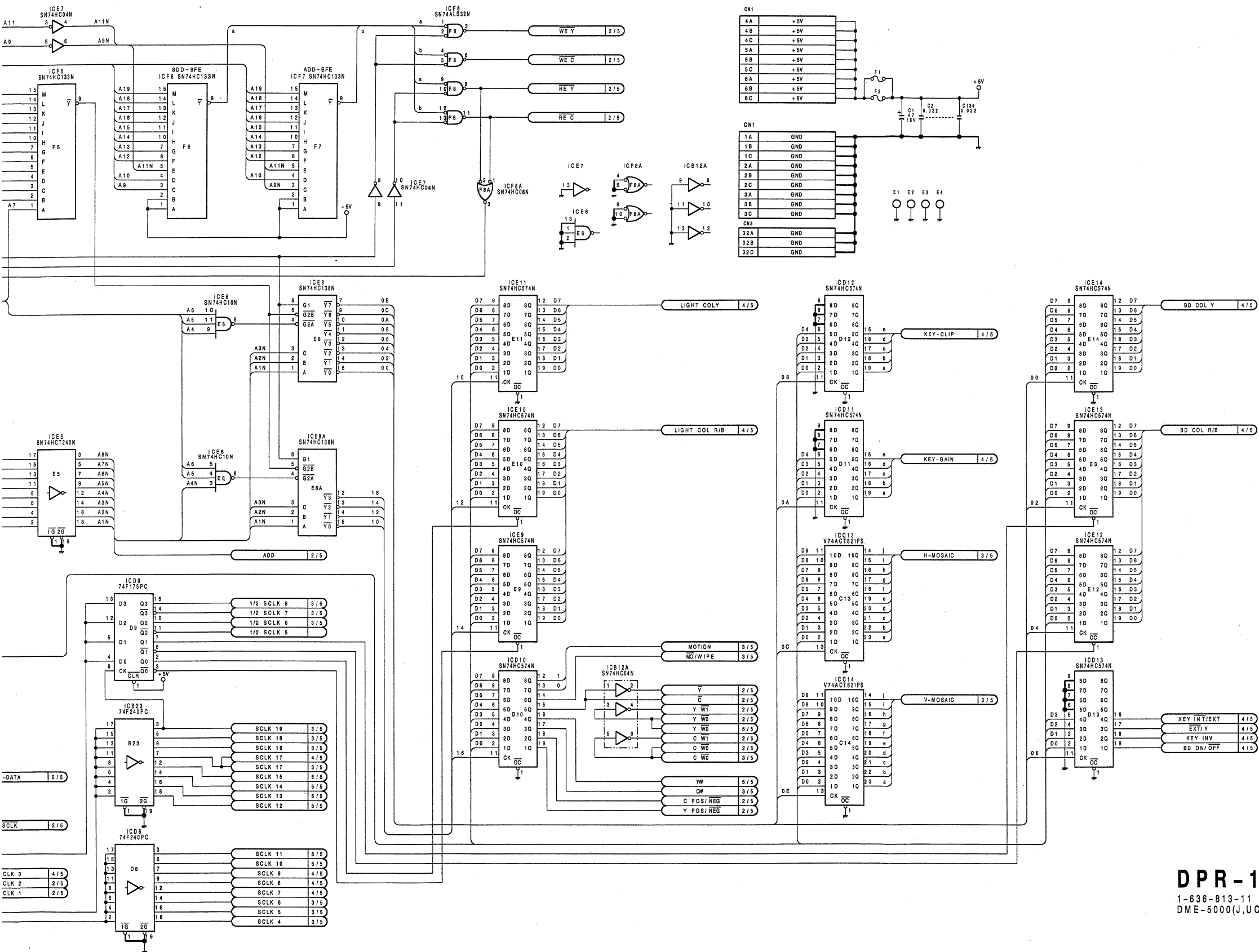
## DLP-10; IIR VERTICAL LOW PASS FILTER



**DLP-10(4/4)**  
1-636-818-11  
DME-5000(J,UC)

## DPR-15;INPUT PIXEL EFFECT GENERATOR AND MONITOR DETECT



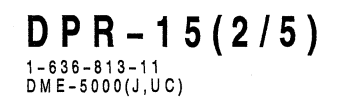


DPR-15(1/5)

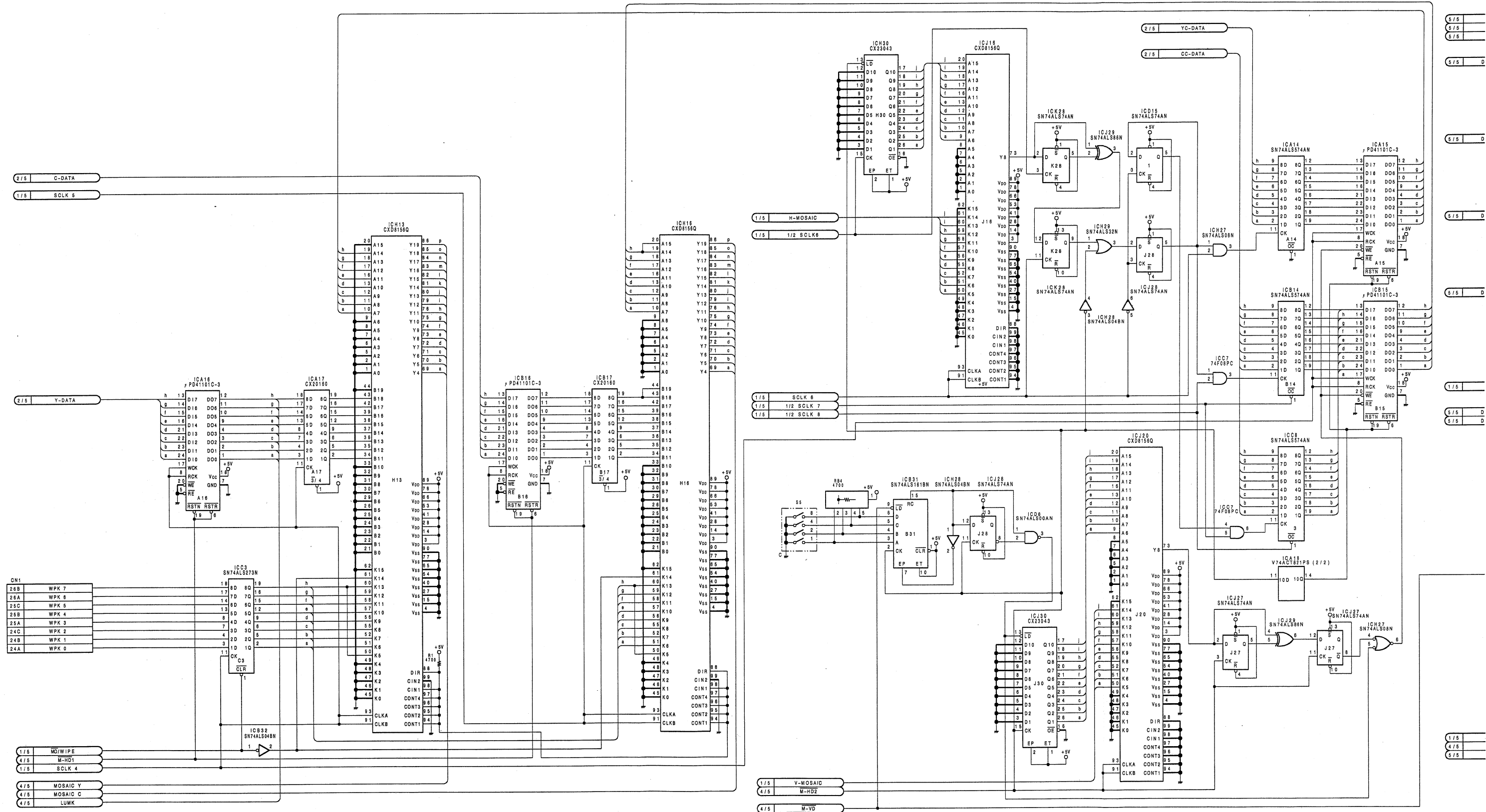
1-836-813-11  
DME-5000(J,U,C)

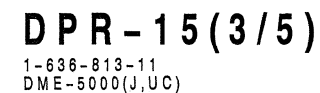






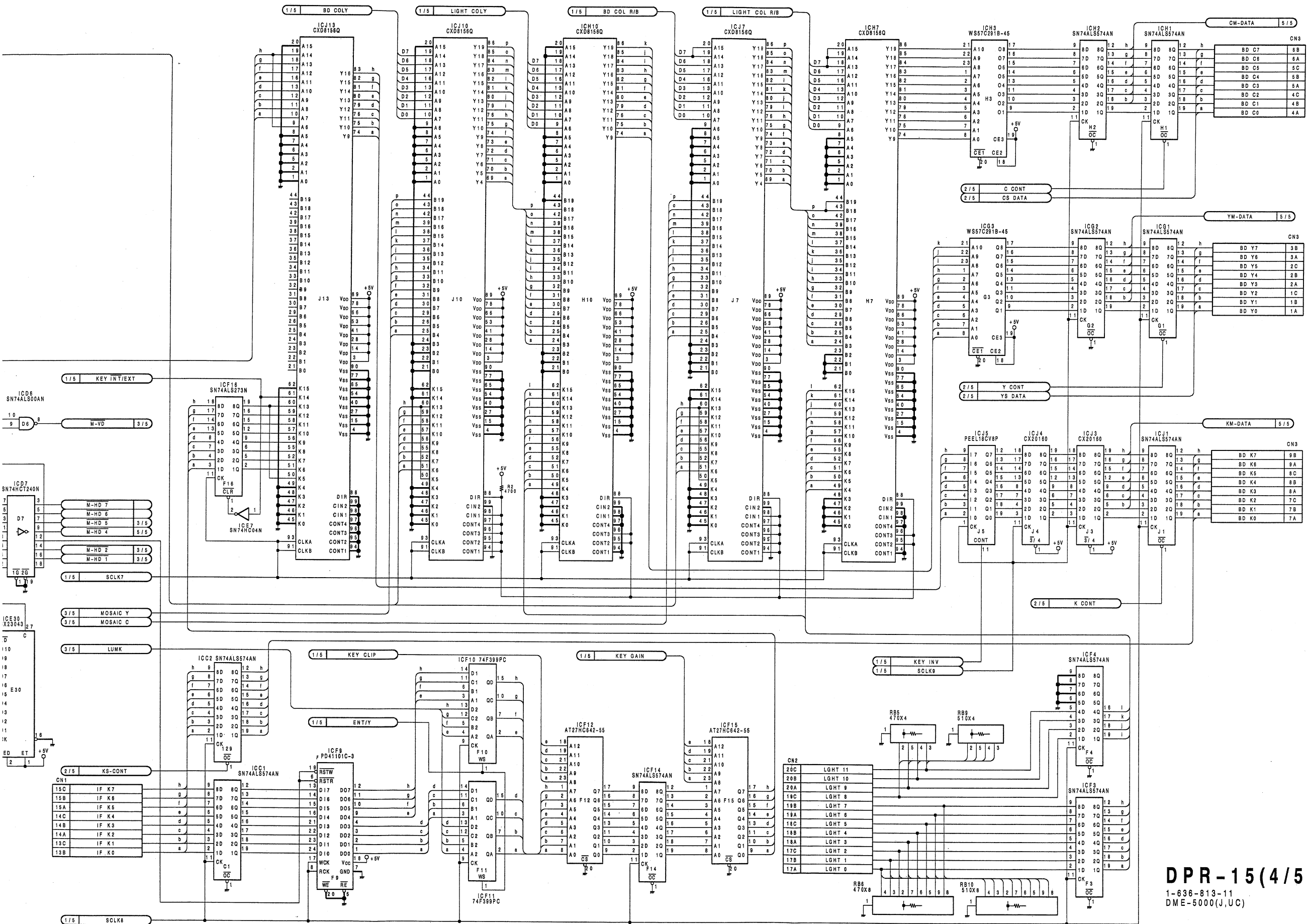
DPR-15;INPUT PIXEL EFFECT GENERATOR AND MONITOR DETECT





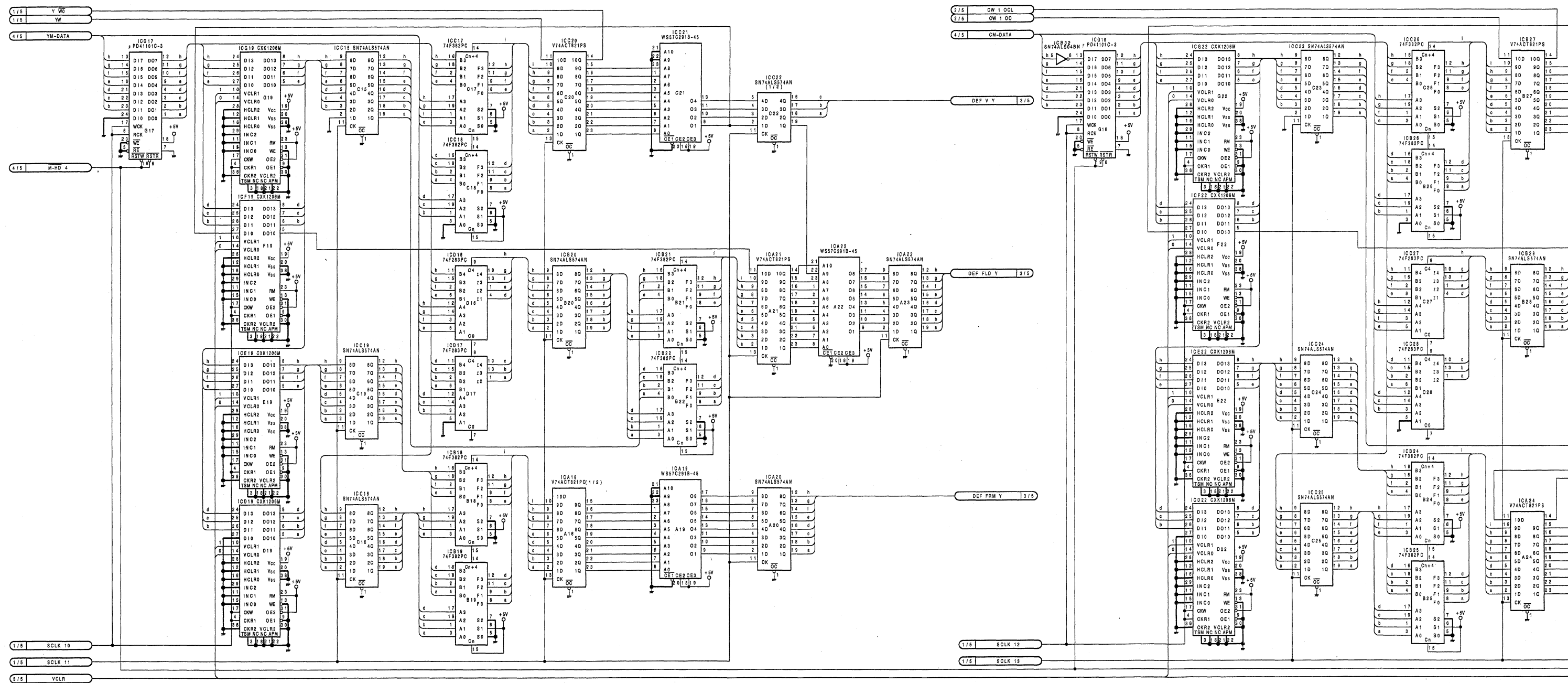
## 5





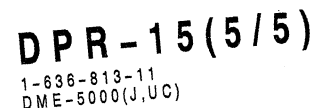
DPR-15(4/5)  
1-636-813-11  
DME-5000(J,UC)

## DPR-15;INPUT PIXEL EFFECT GENERATOR AND MONITOR DETECT



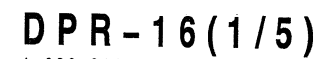


~~DPR-15(5/5) DPR-15(5/5)~~



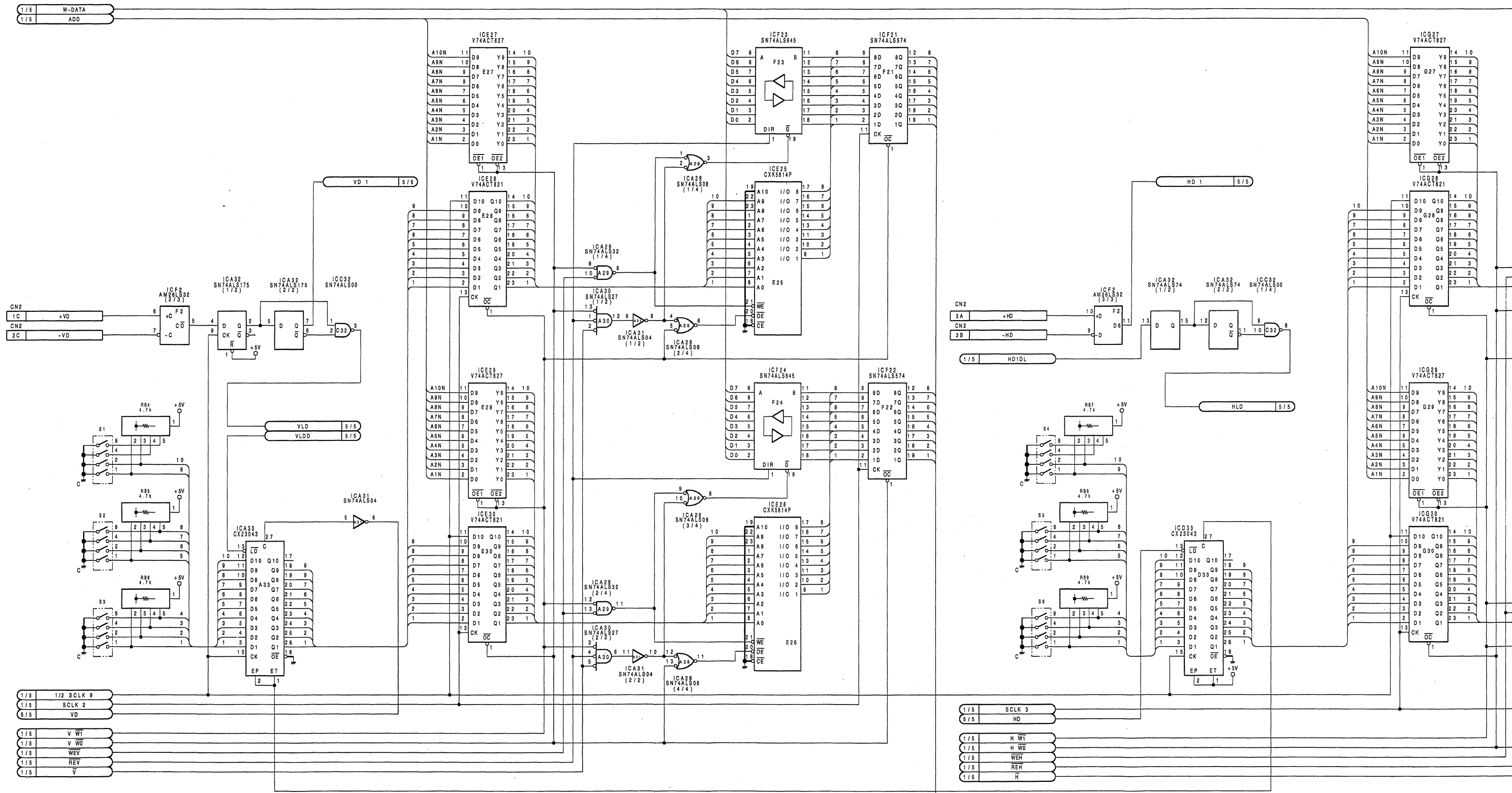


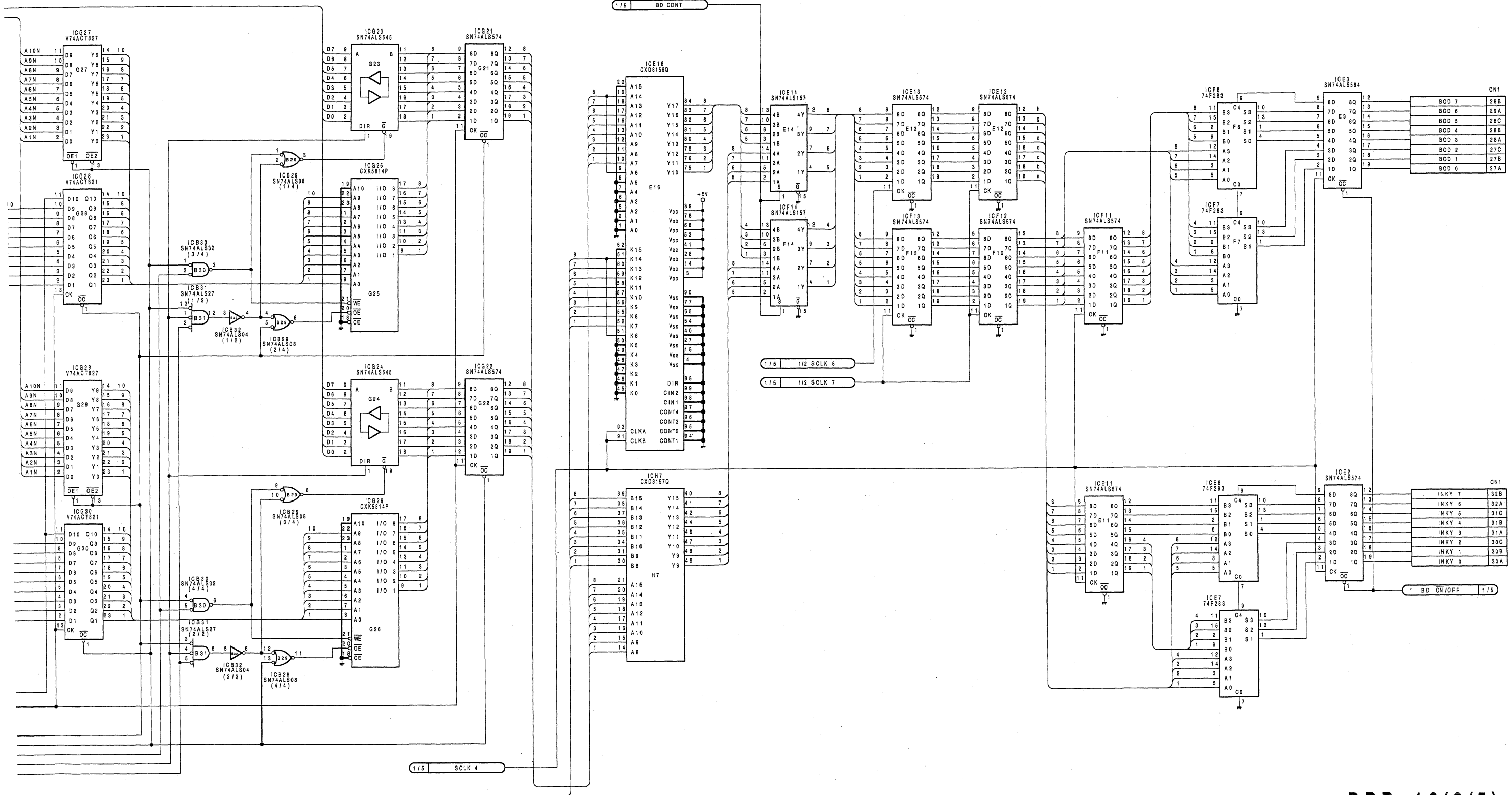




1-636-814-11  
DME-5000(J,UC)

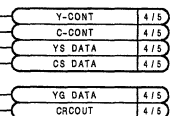
# DPR-16; OUTPUT RECURSIVE EFFECT GENERATOR AND BORDER GENERATOR



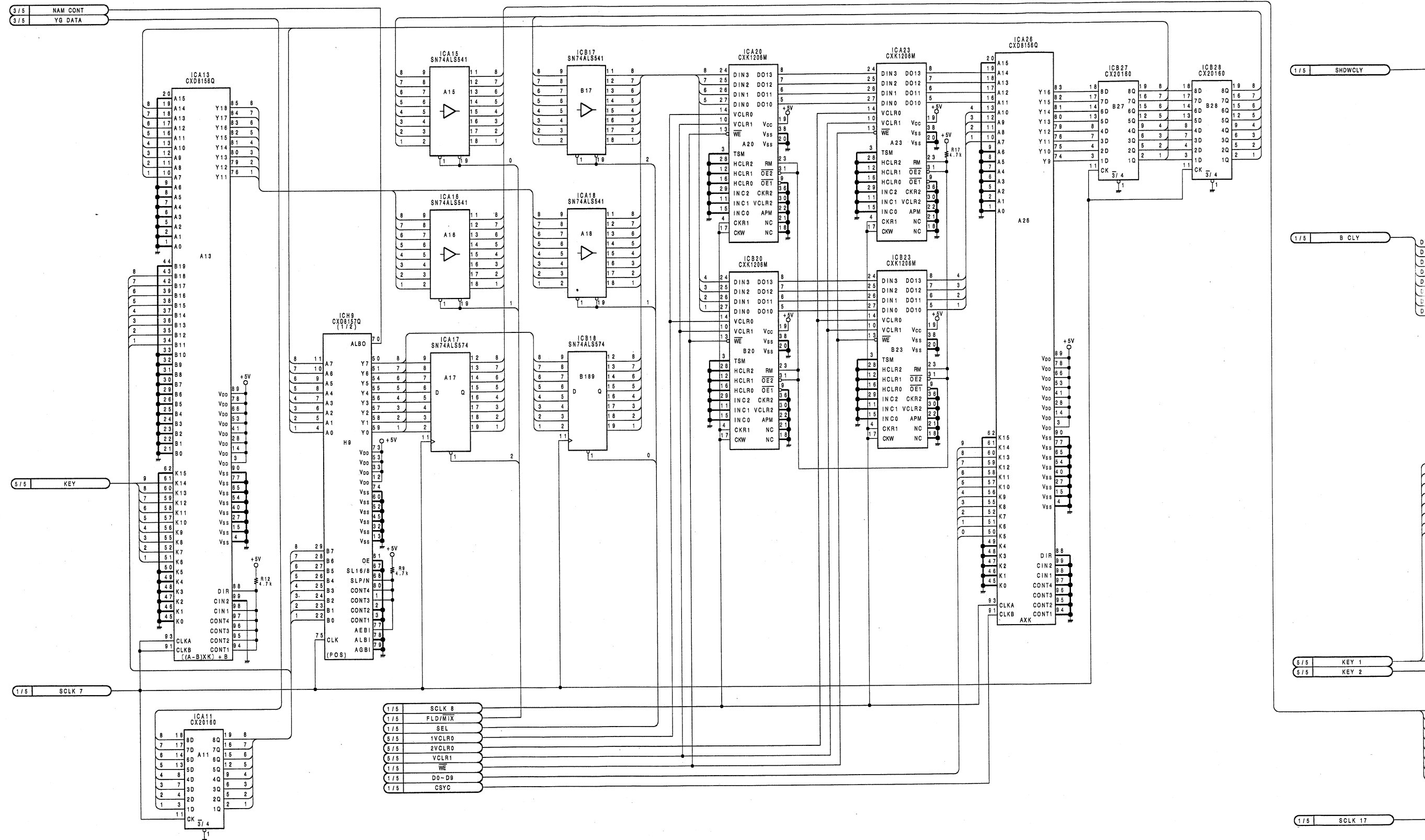


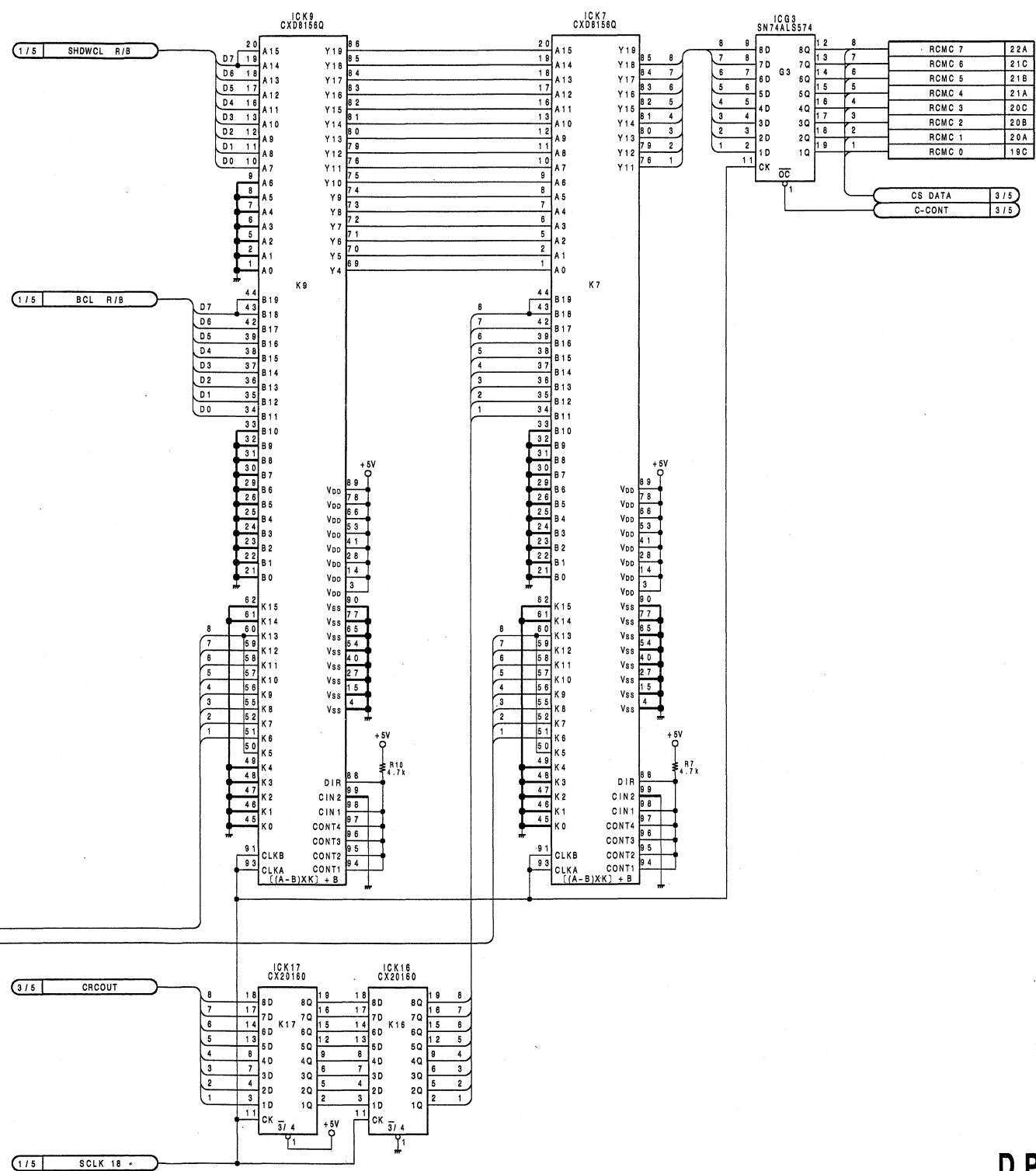
1-636-814-11  
DME-5000(J,UC)





1-636-814-11  
DME-5000(J,U C)

DPR-16; OUTPUT RECURSIVE EFFECT GENERATOR  
AND BORDER GENERATOR



1-636-814-11  
DME-5000(J,UC)

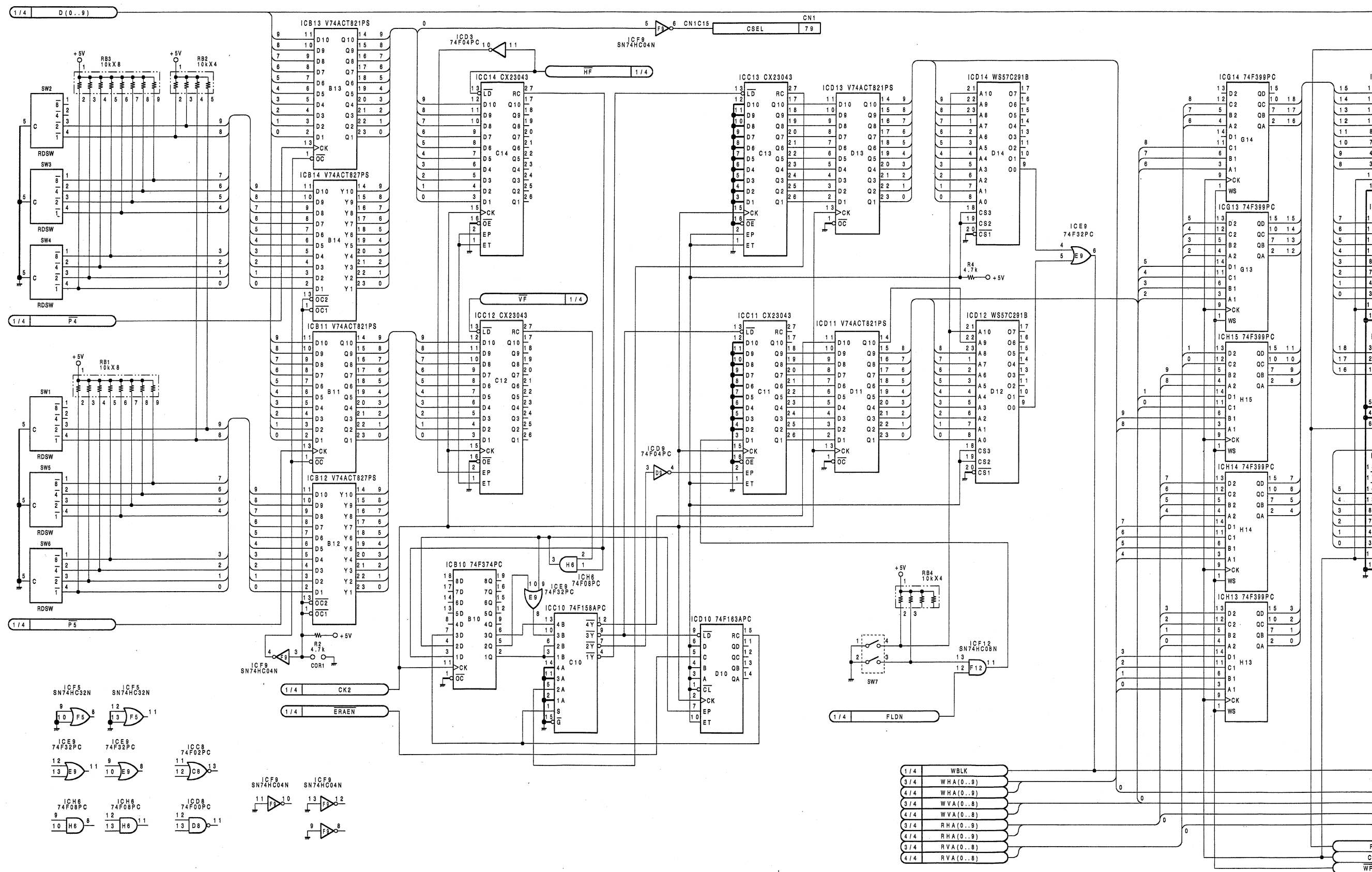


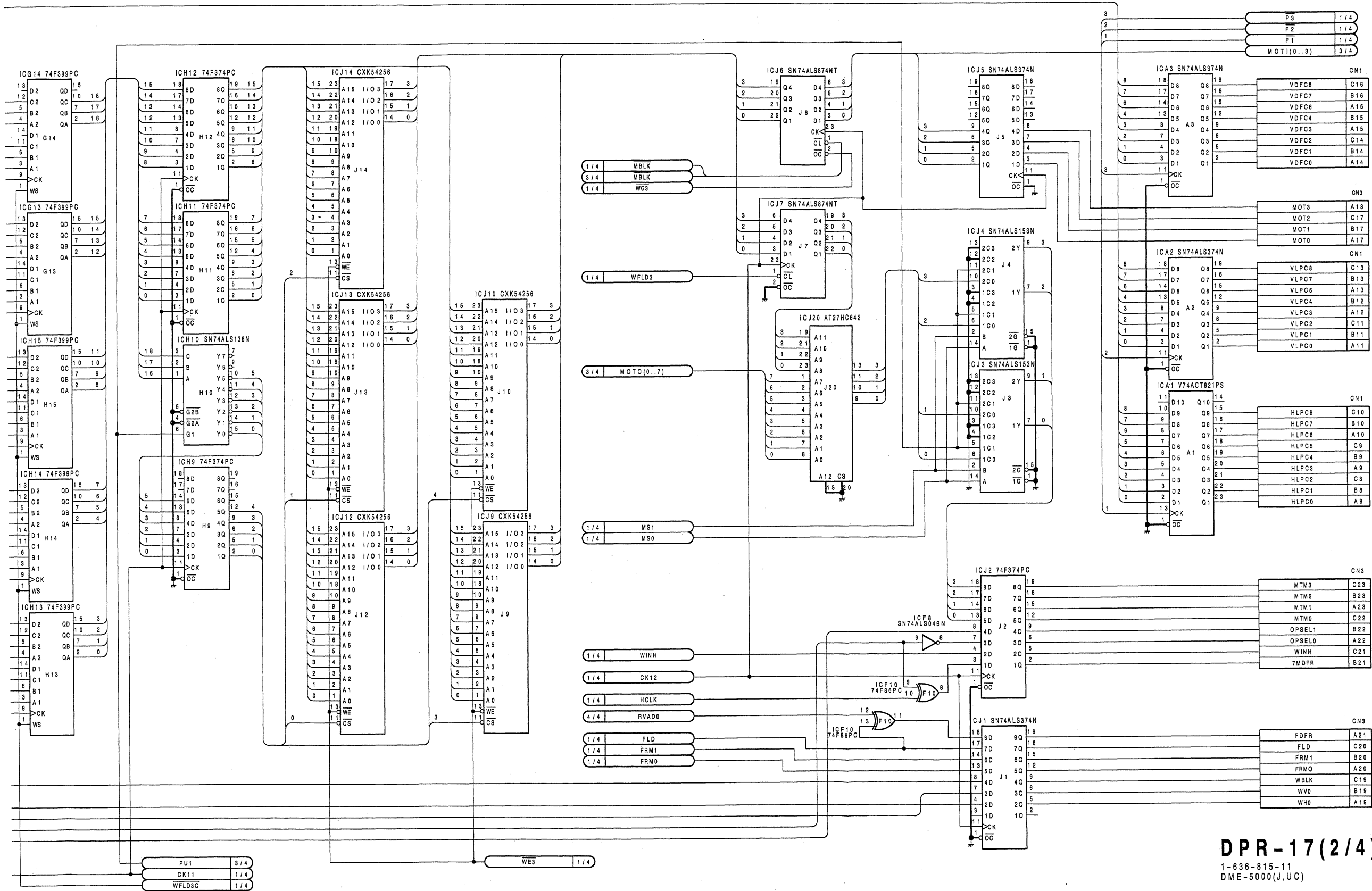




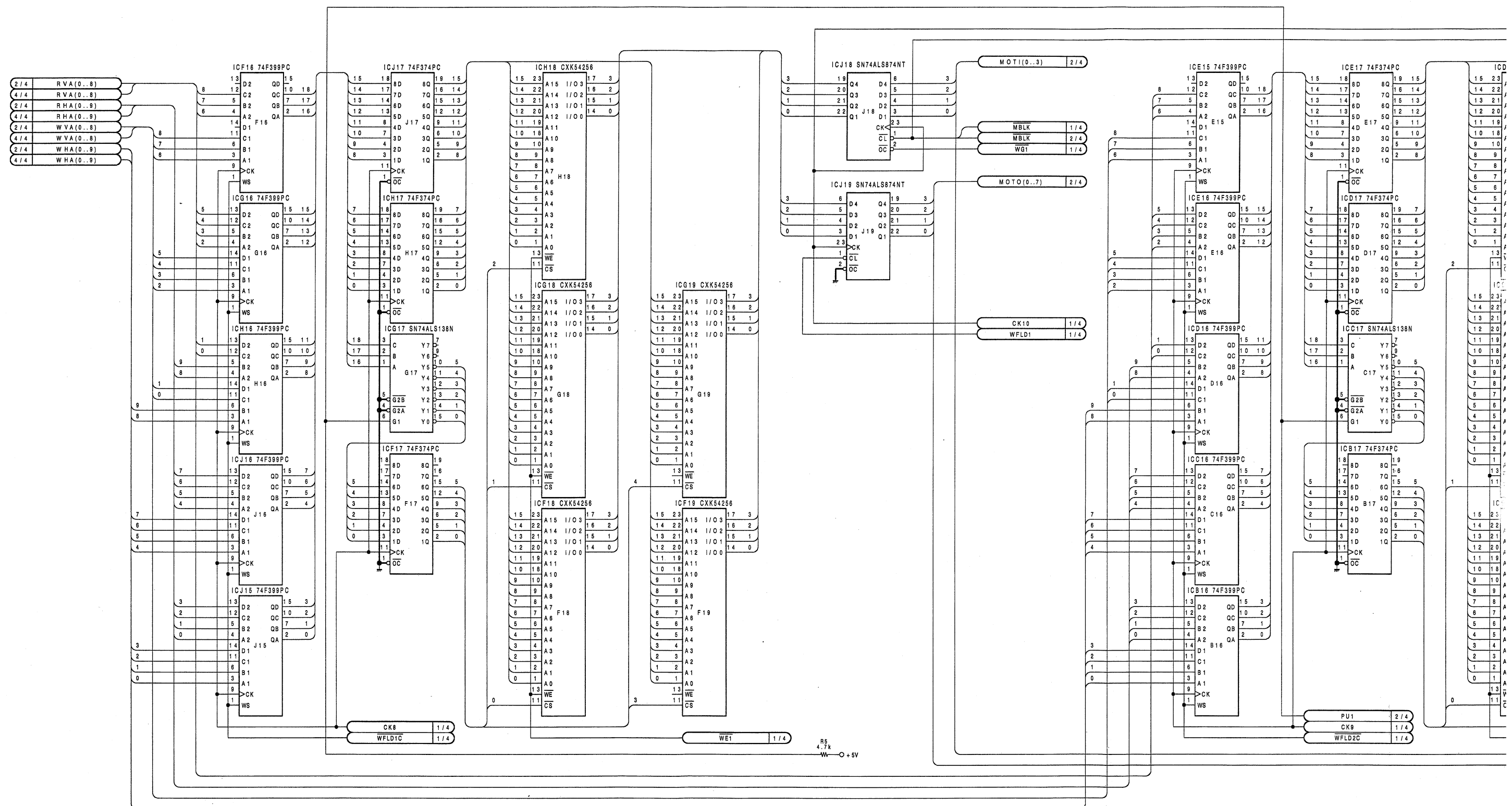


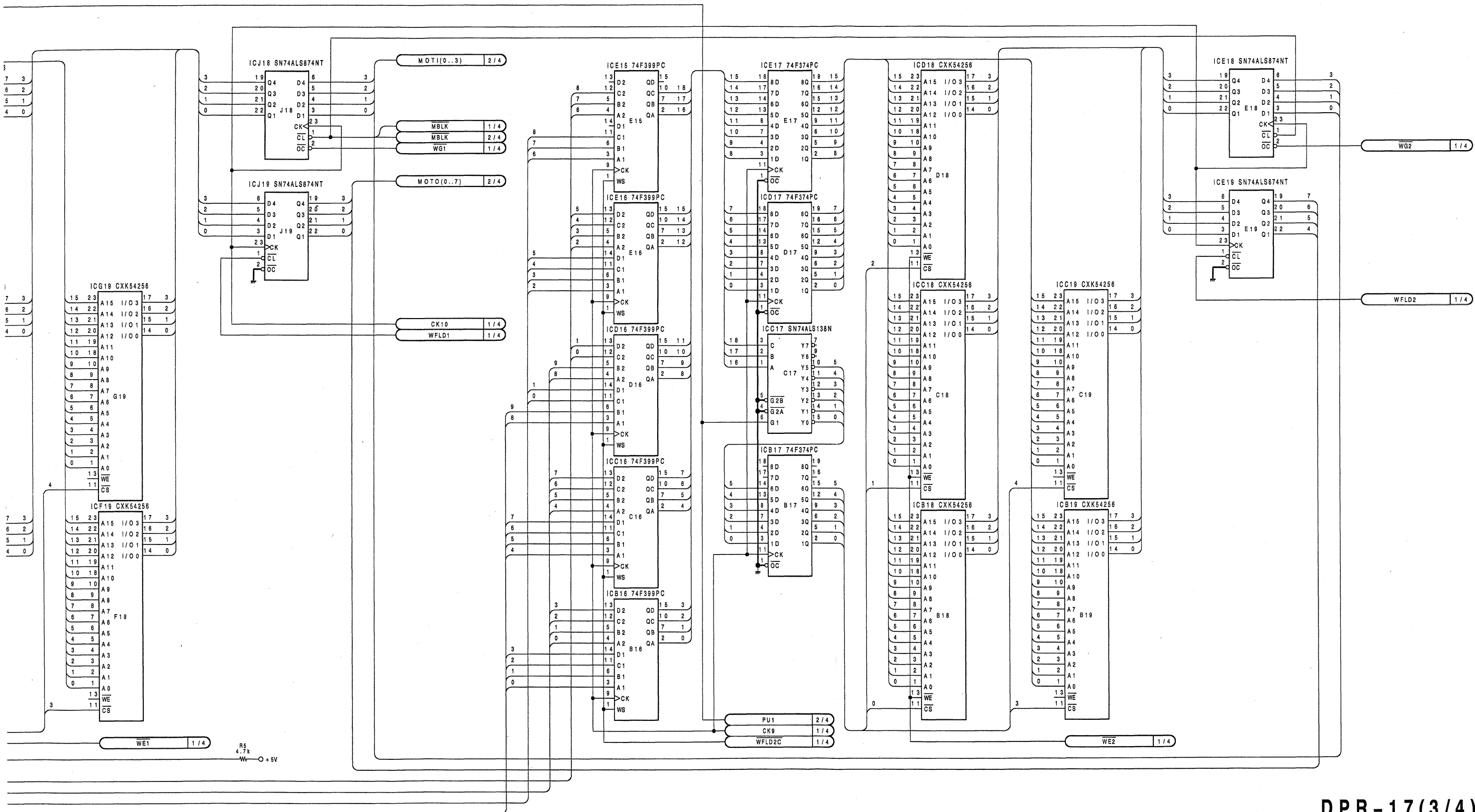
DPR-17;MEMORY ADDRESS SELECTOR AND  
WRITE ADDRESS GENERATOR





DPR-17(2/4)  
1-636-815-11  
DME-5000(J,UC)

DPR-17; MEMORY ADDRESS SELECTOR AND  
WRITE ADDRESS GENERATOR

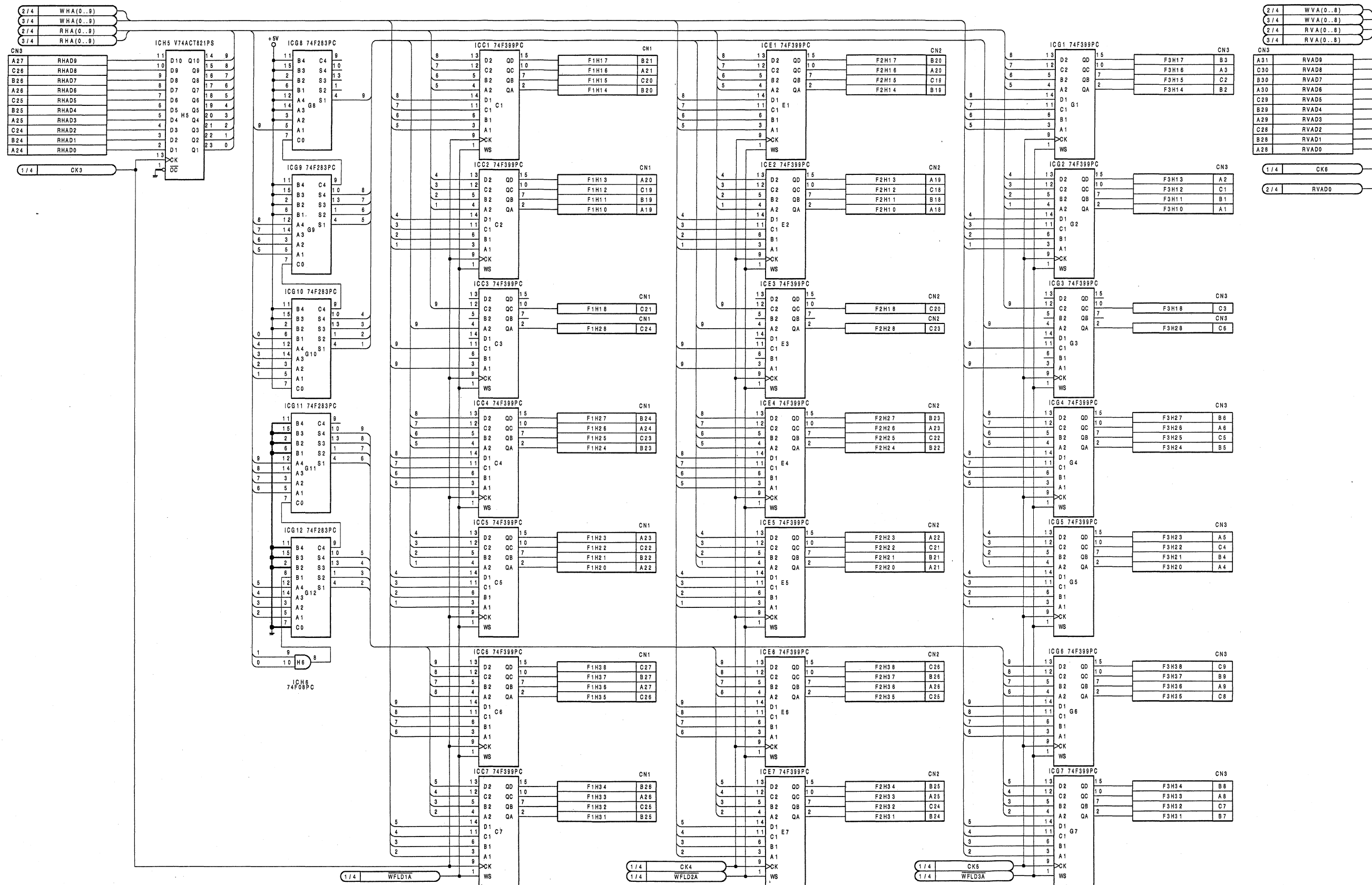


DPR-17(3/4)

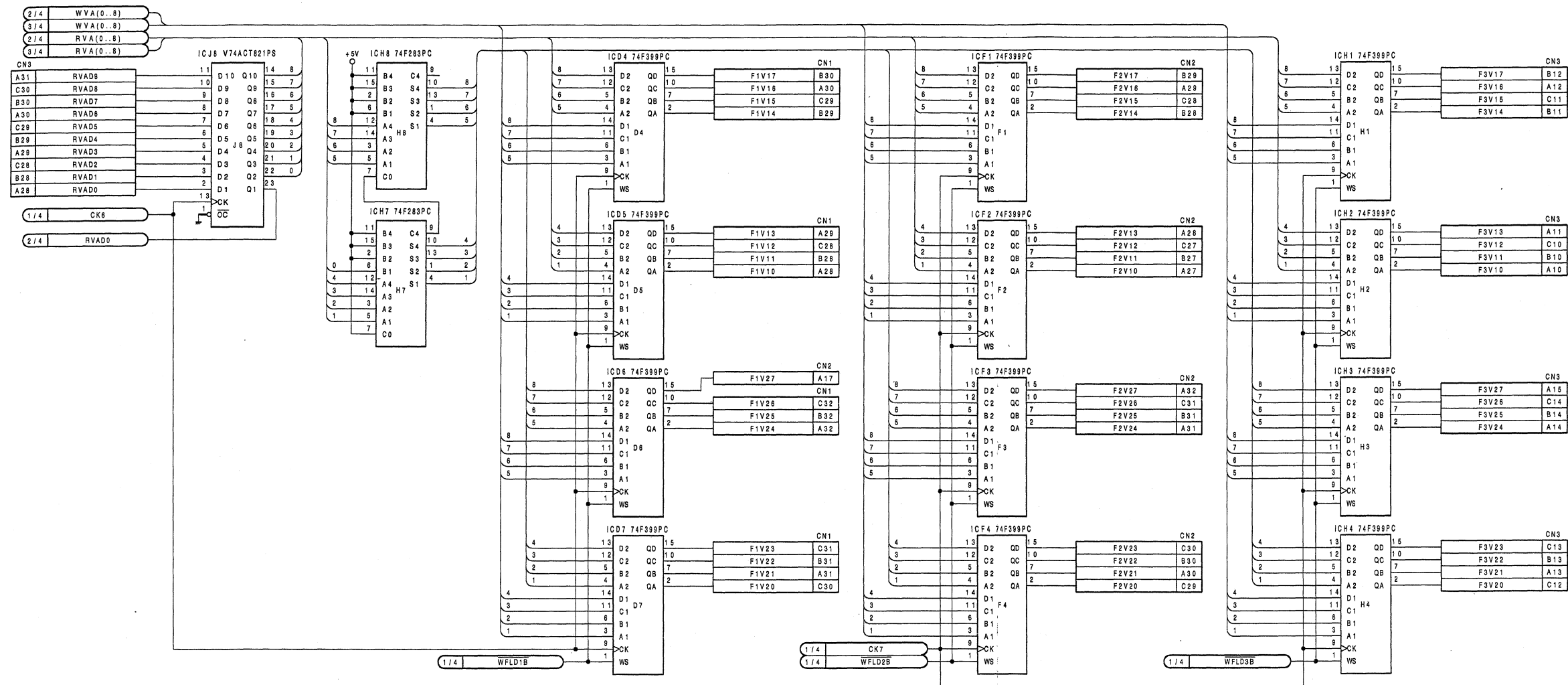
1-636-815-11  
DME-5000(J,UC)



DPR-17;MEMORY ADDRESS SELECTOR AND  
WRITE ADDRESS GENERATOR



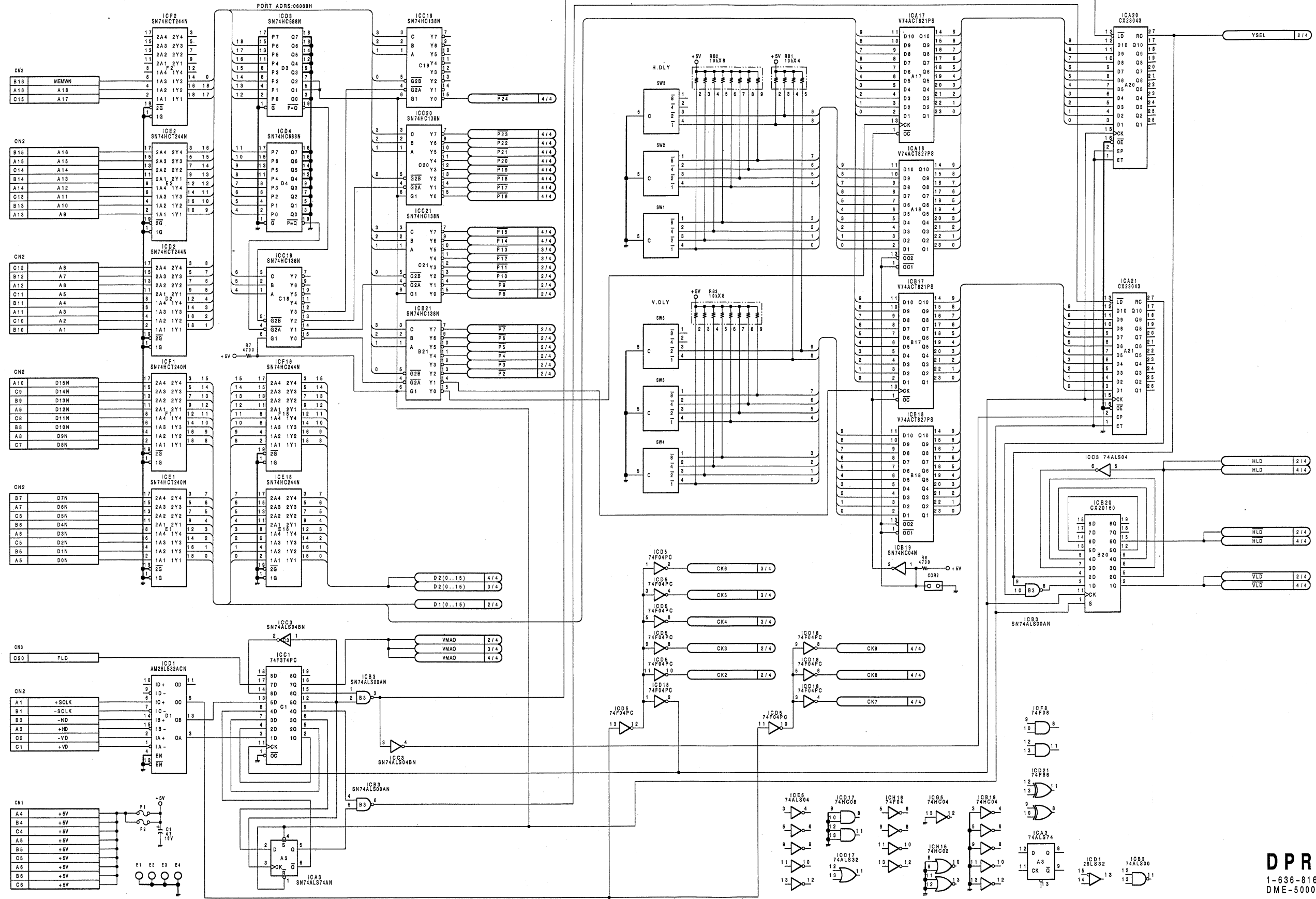




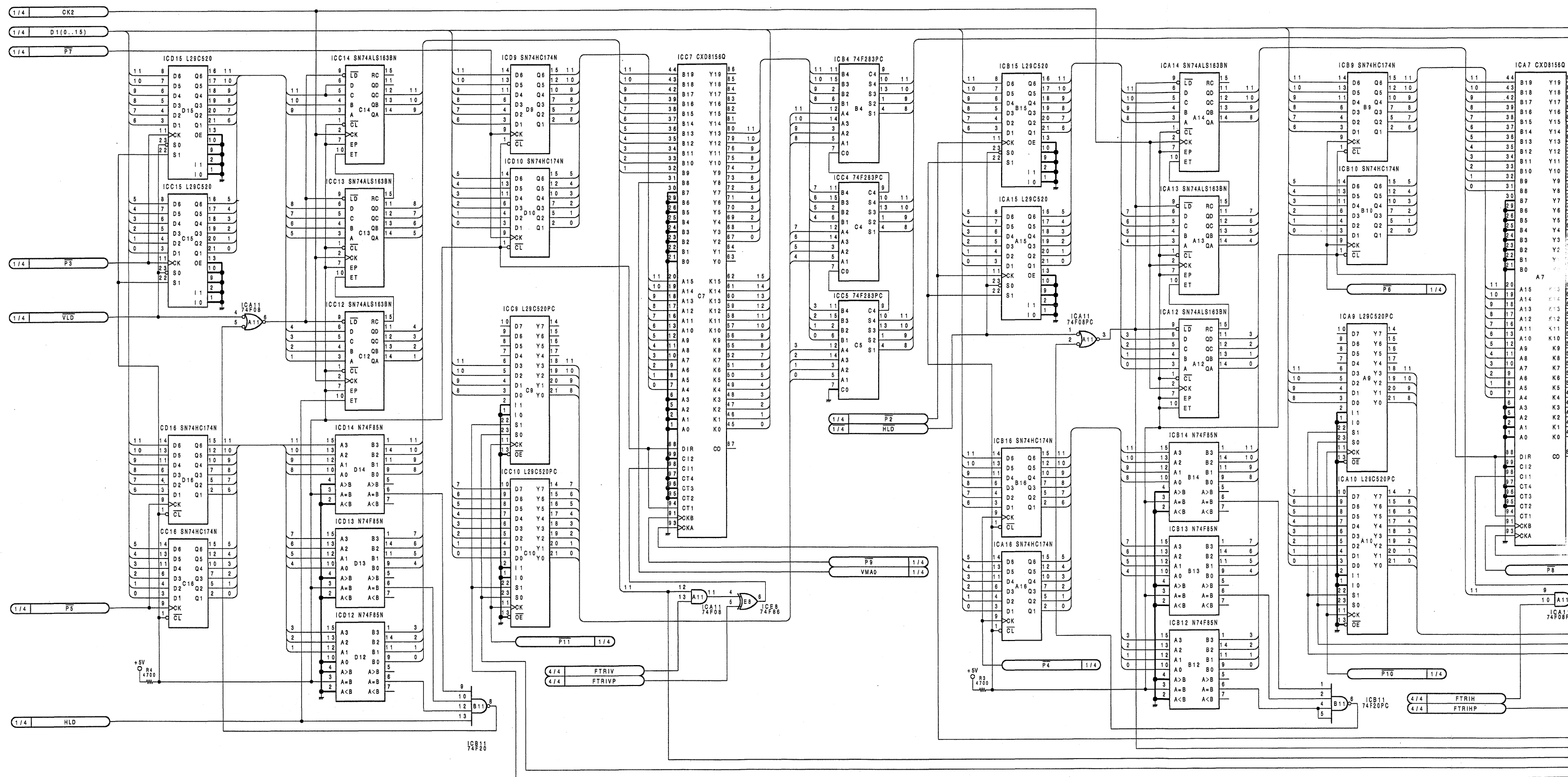
DPR-17(4/4)

1-636-815-11  
DME-5000(J,UC)

DPR-18;READ ADDRESS GENERATOR AND SPLIT MIRROR GENERATOR

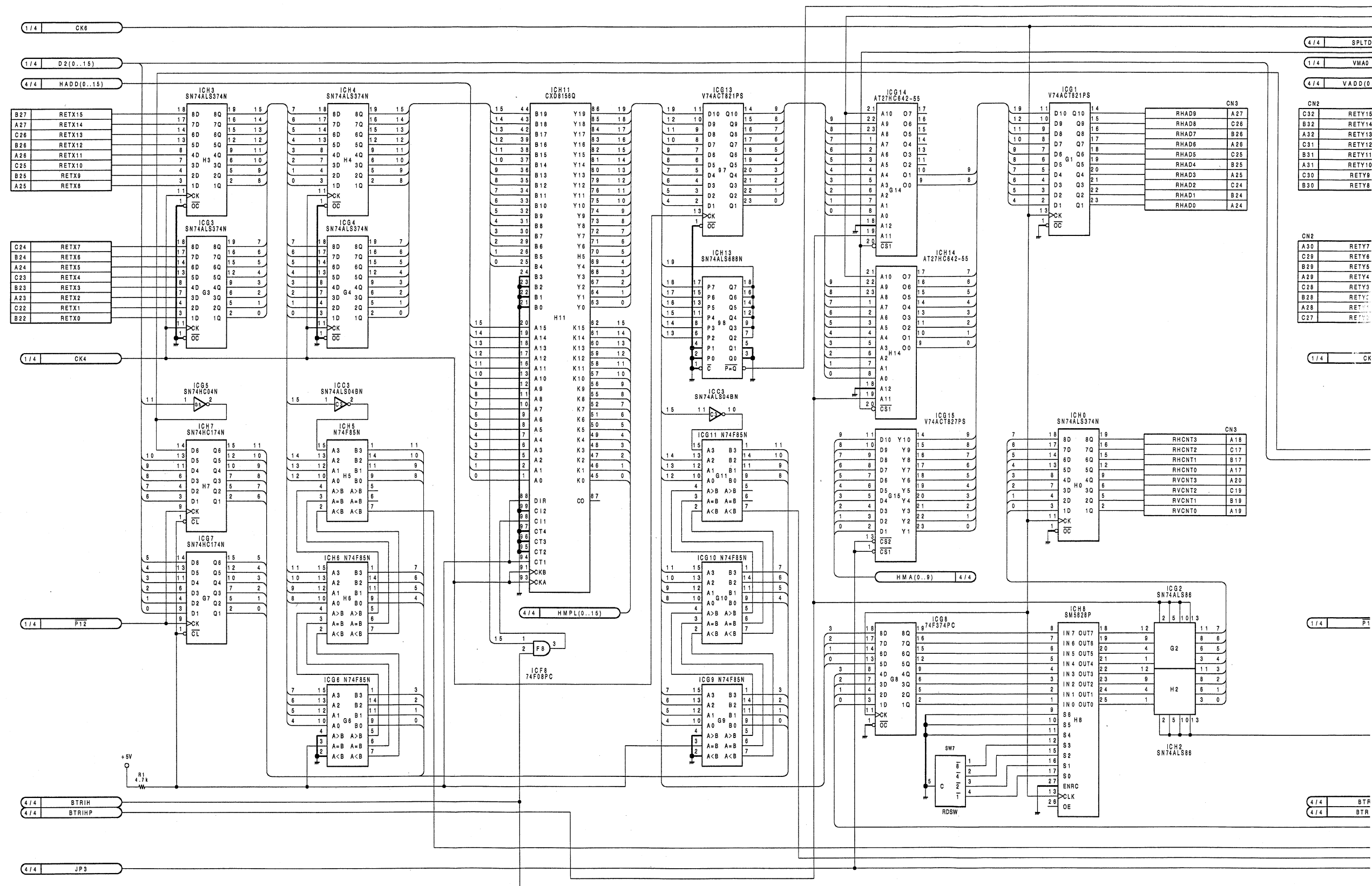


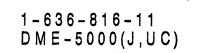
## DPR-18;READ ADDRESS GENERATOR AND SPLIT MIRROR GENERATOR



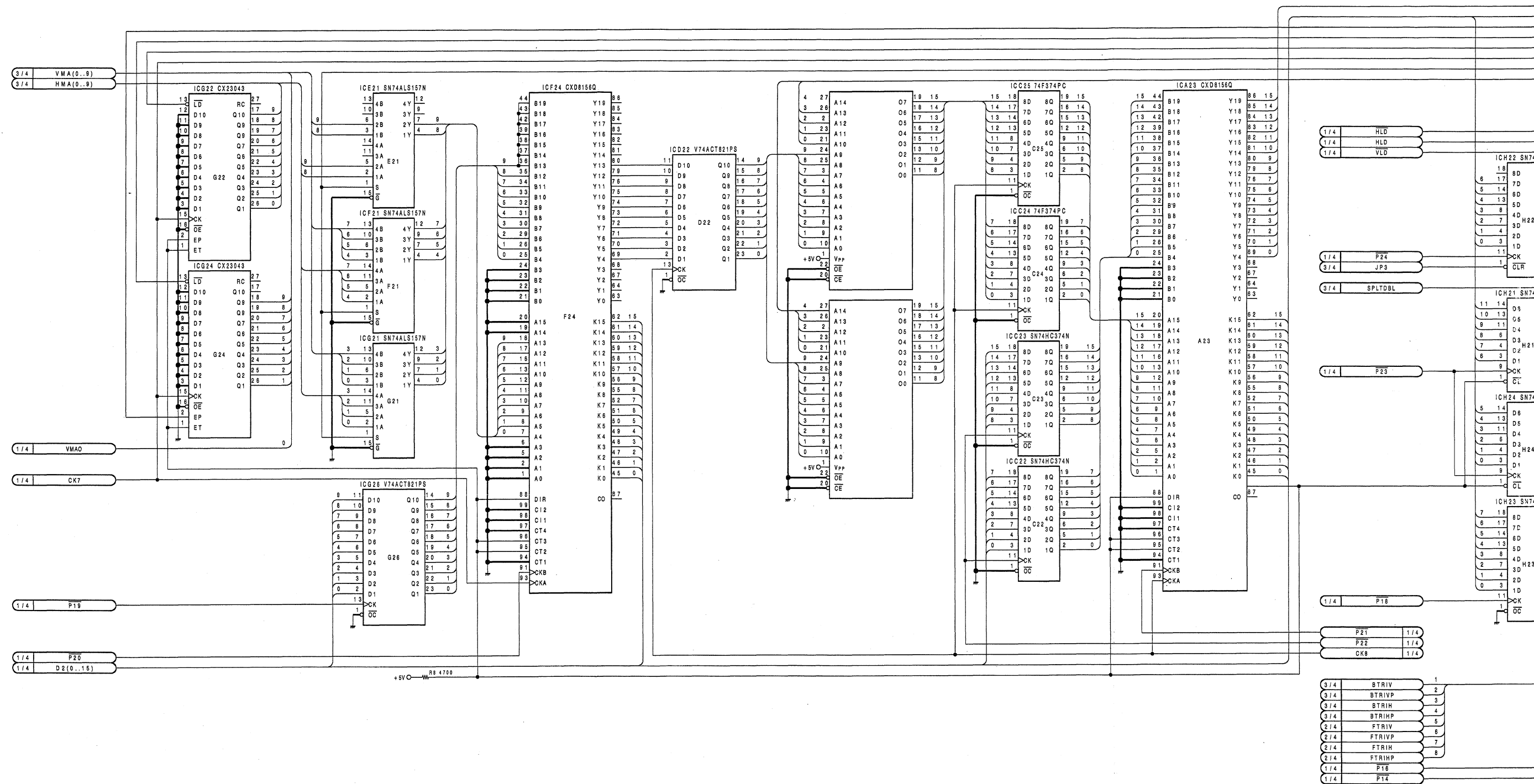


## DPR-18;READ ADDRESS GENERATOR AND SPLIT MIRROR GENERATOR

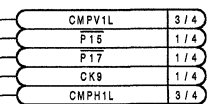




DPR-18;READ ADDRESS GENERATOR AND SPLIT MIRROR GENERATOR

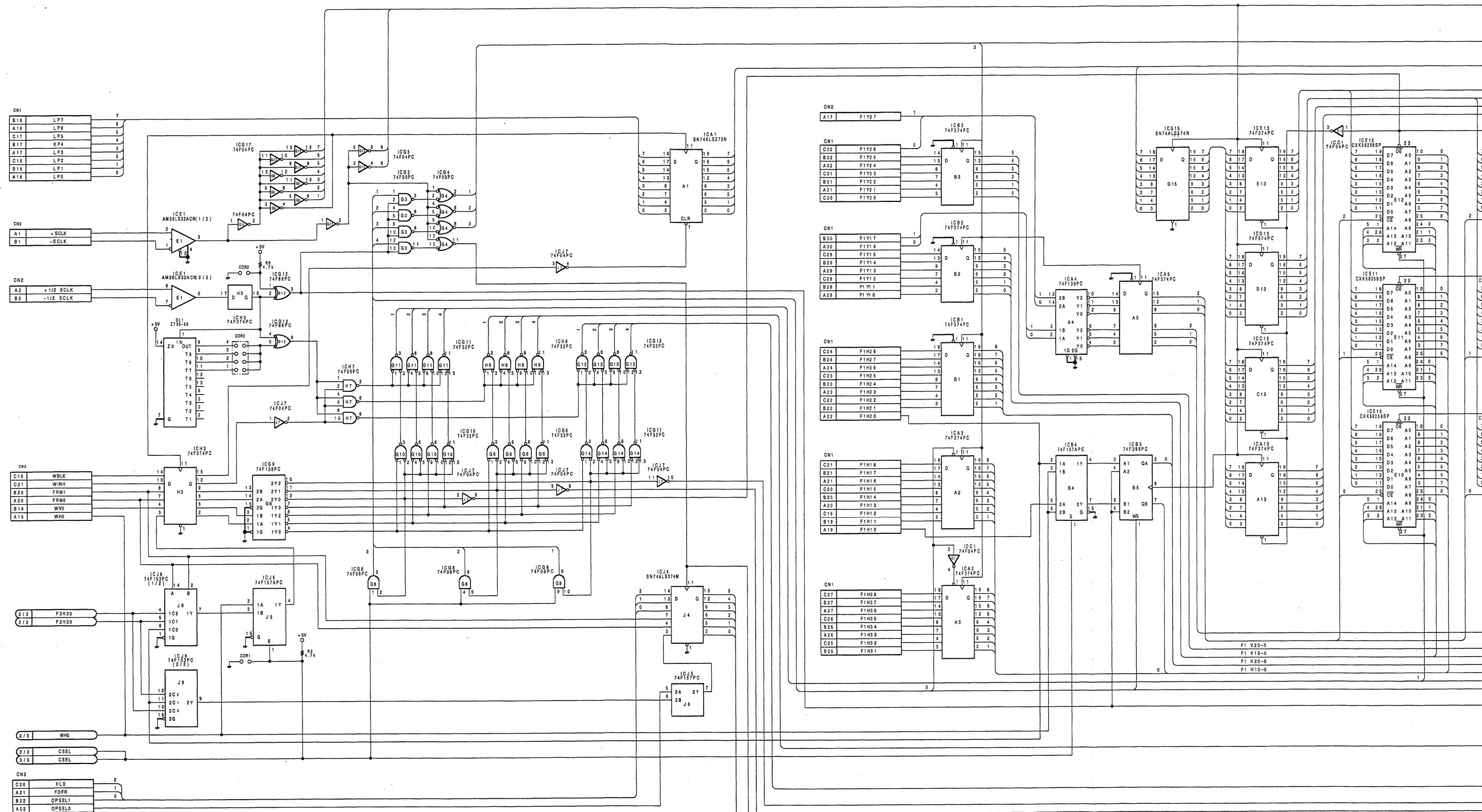


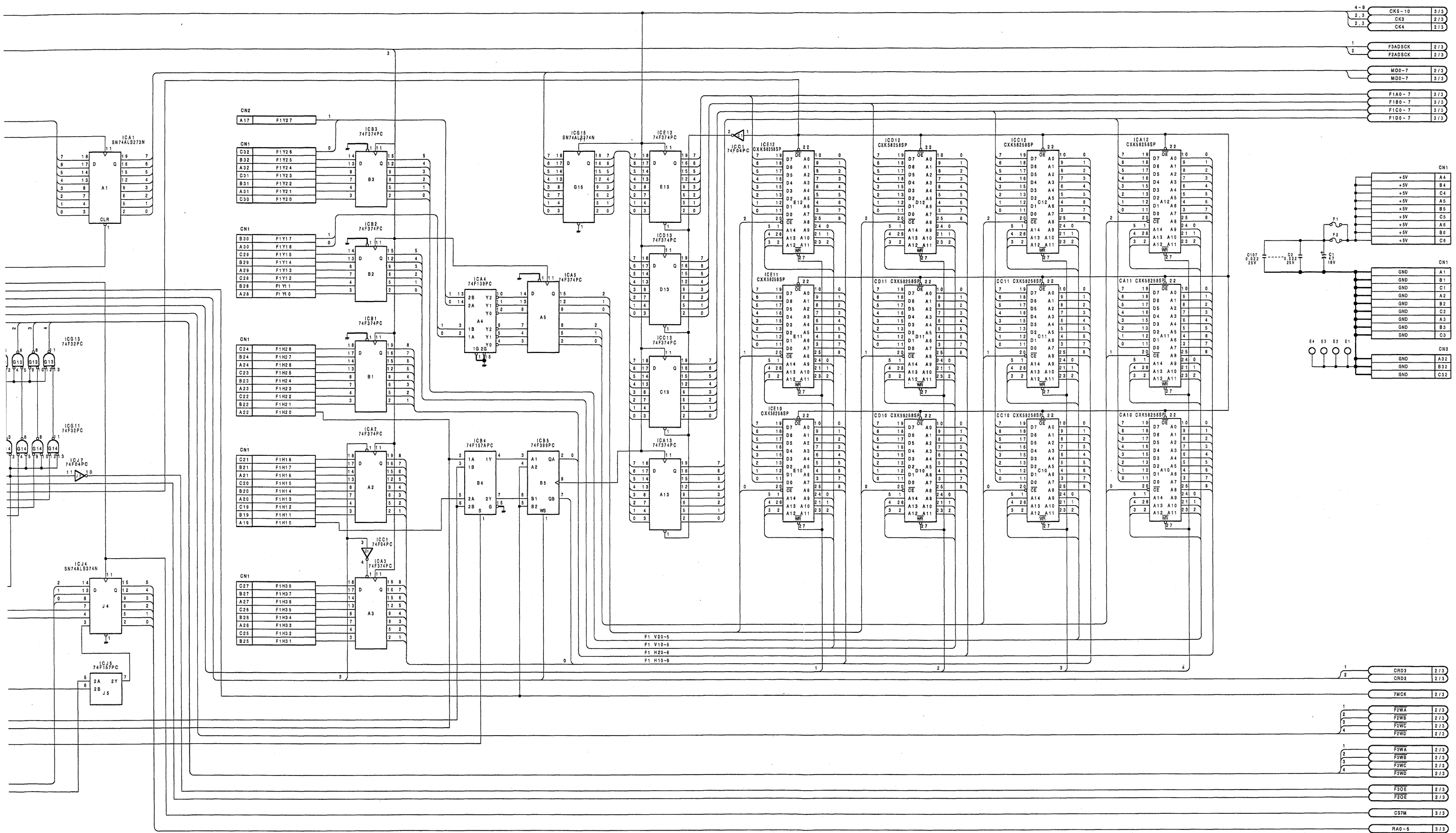






## MEM-41;3 FIELD VIDEO MEMORY AND INTERPOLATOR

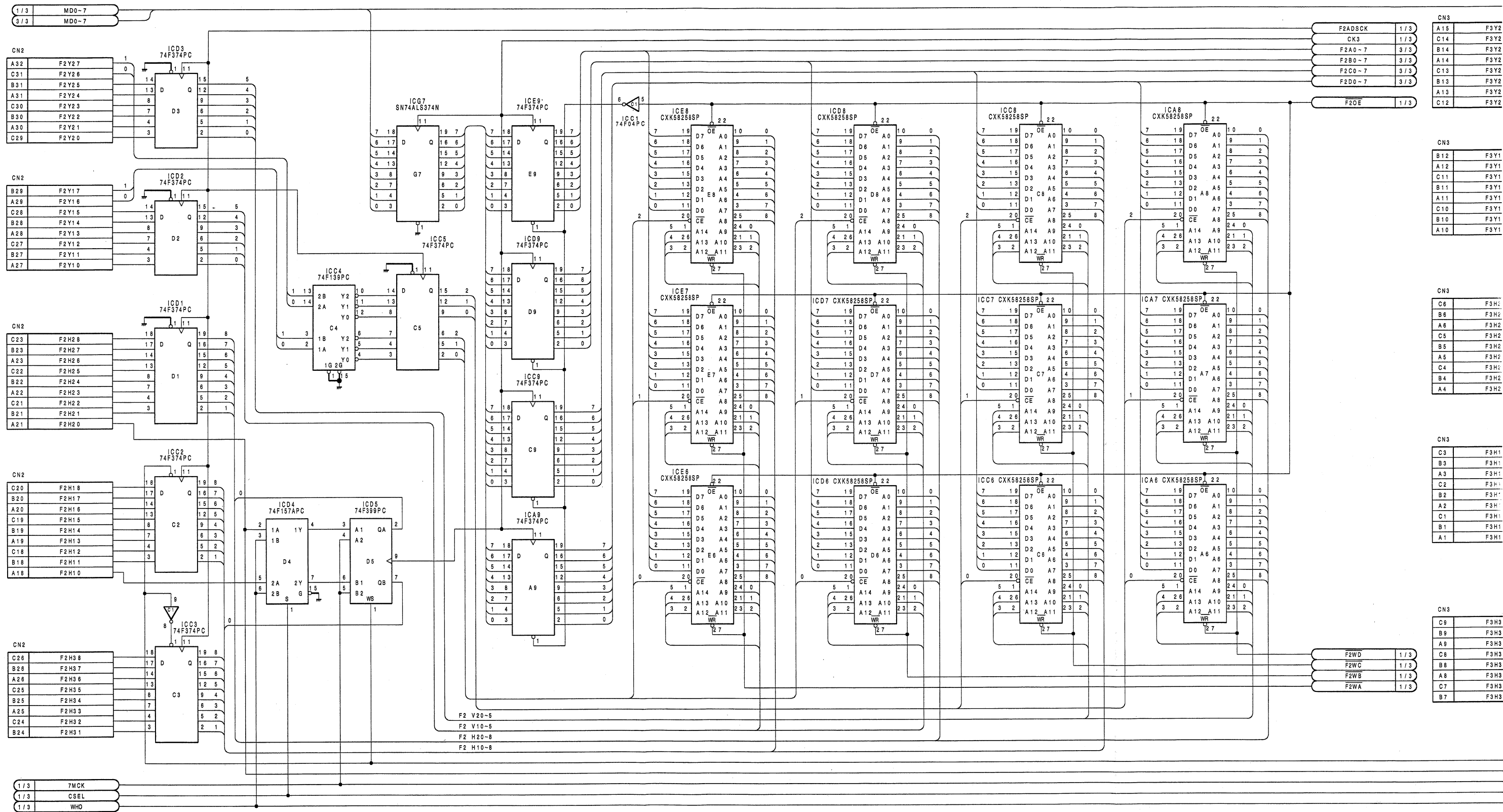


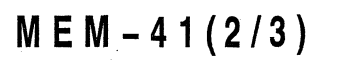


MEM-41(1/3)

1-636-820-11  
DME-5000(J,UC)

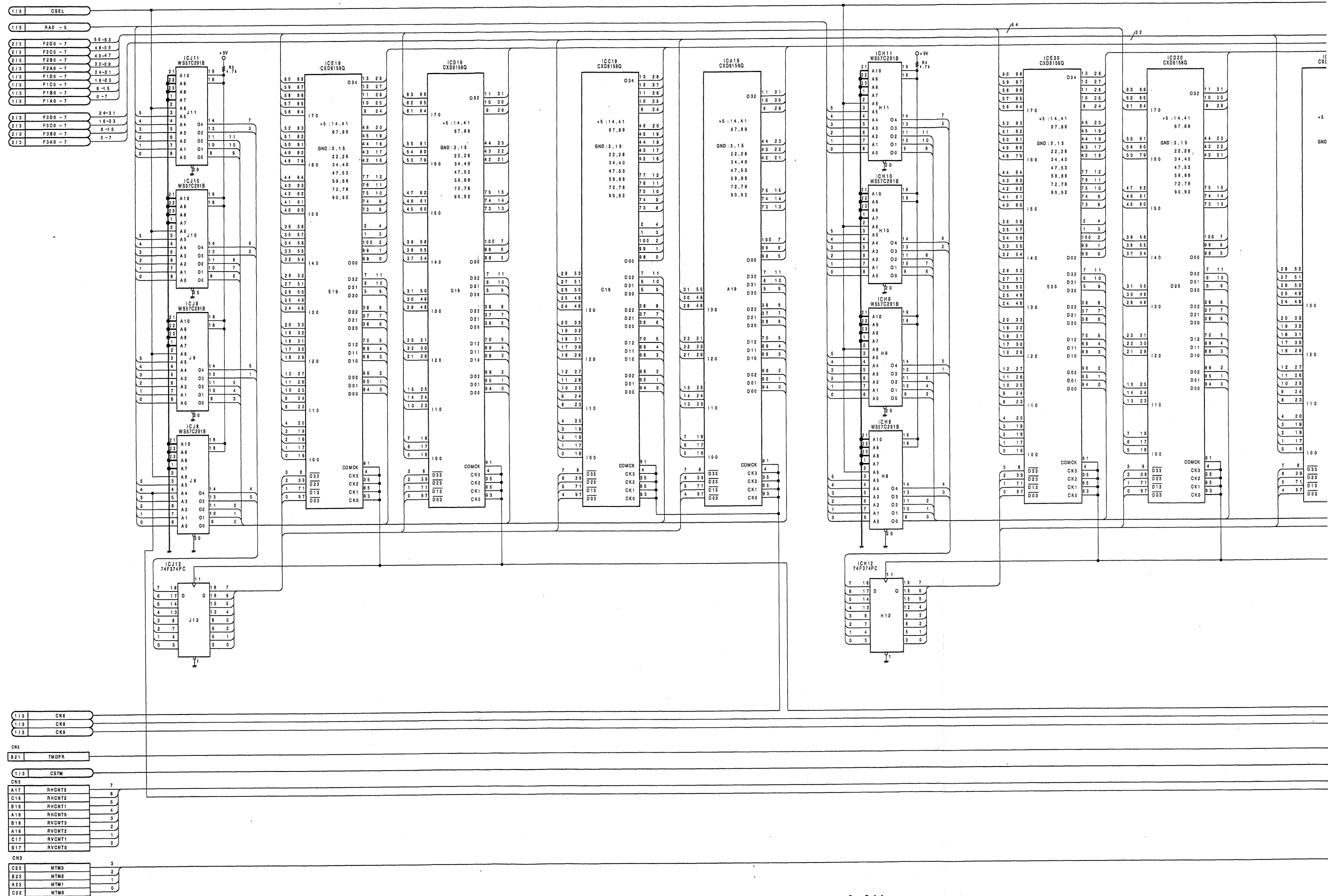
## MEM-41;3 FIELD VIDEO MEMORY AND INTERPOLATOR

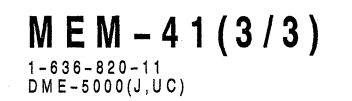




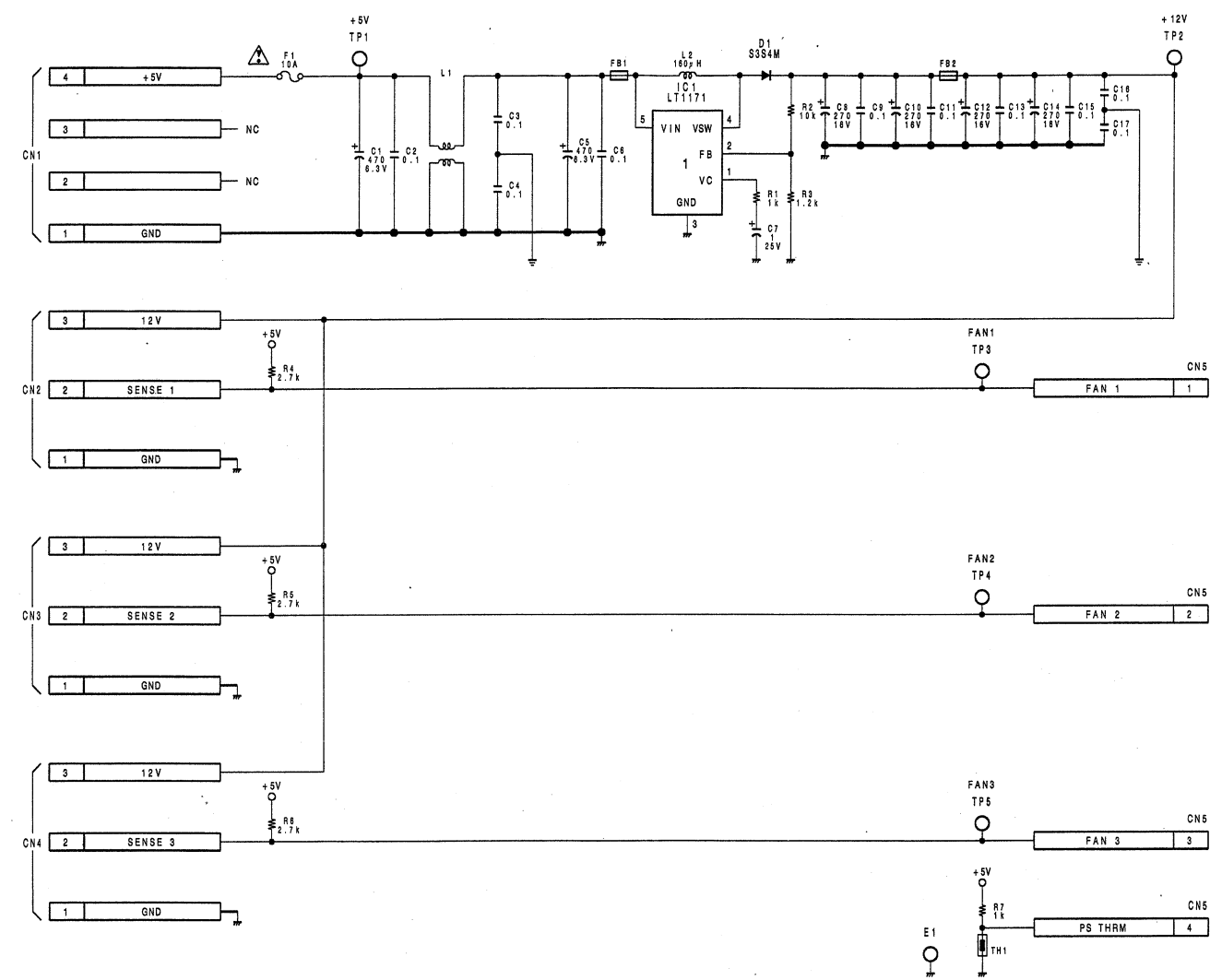
1-636-820-11  
DME-5000(J,UC)

## MEM-41;3 FIELD VIDEO MEMORY AND INTERPOLATOR



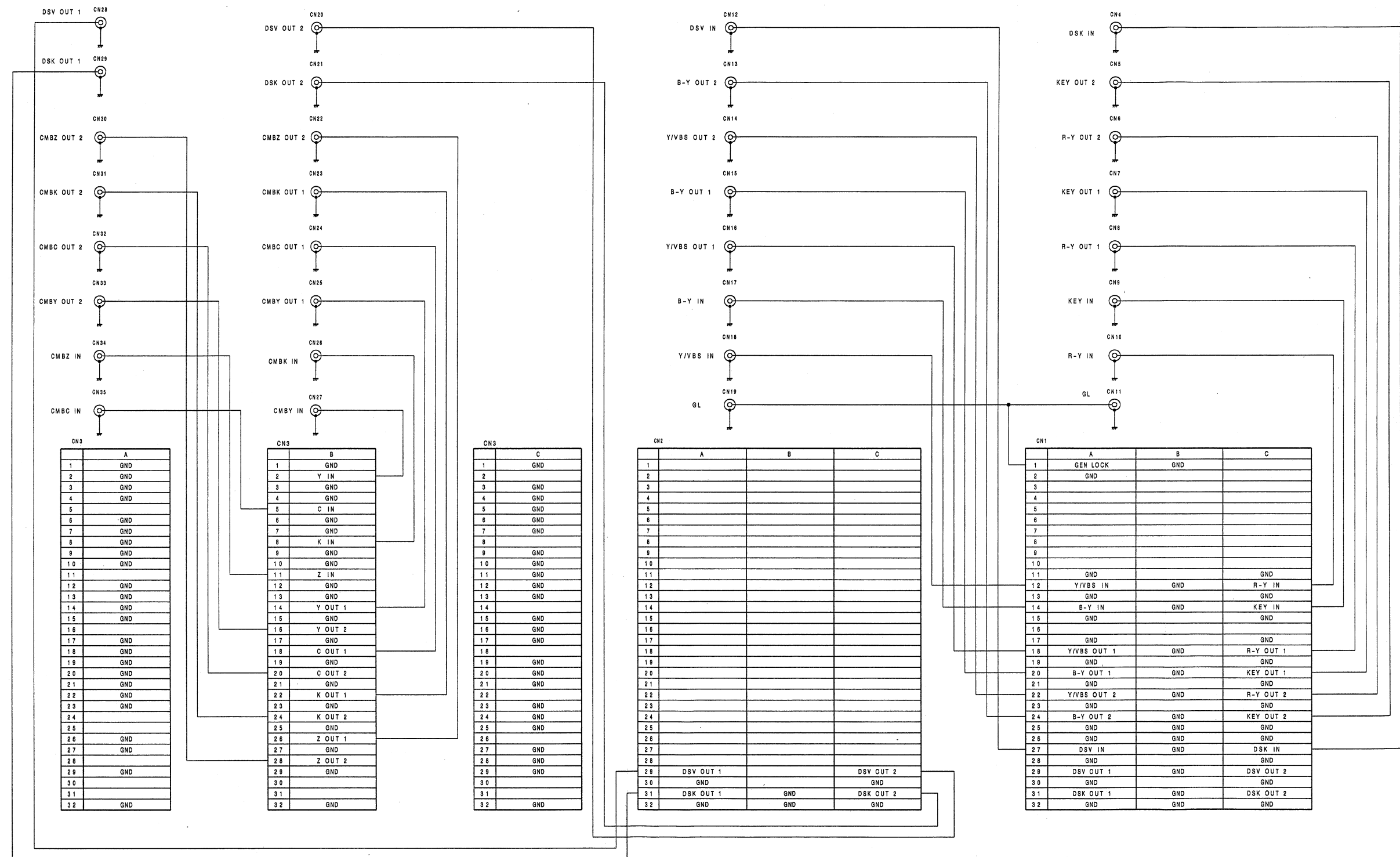


CN-456;POWER SUPPLY CONNECTOR BOARD



CN-456  
1-636-522-11  
DME-5000(J,UC)

CN-462;BNC CONNECTOR BOARD

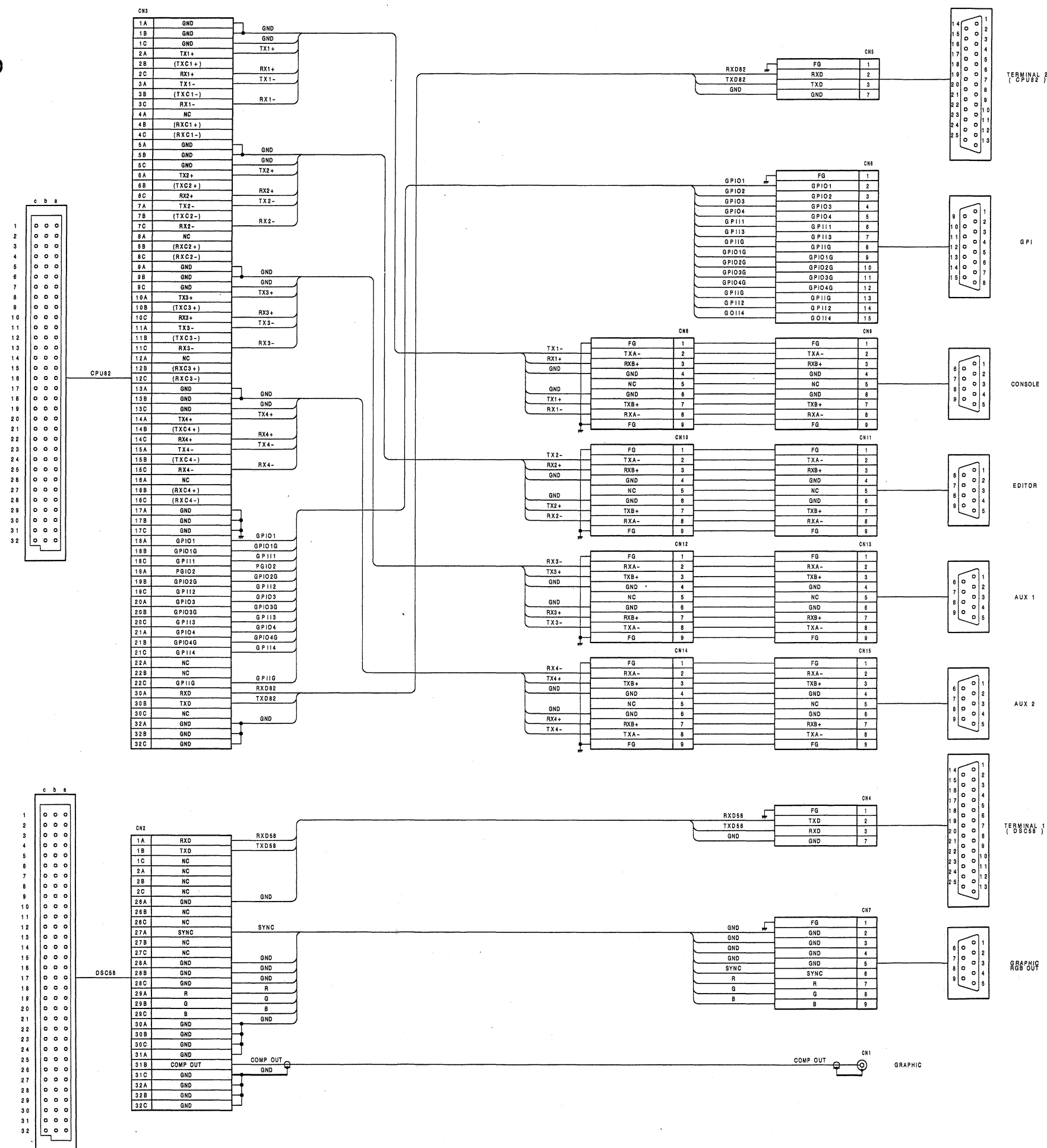


CN-462  
1-636-825-11  
DME-5000(J,U,C)



# CN-463;D SUB CONNECTOR BOARD

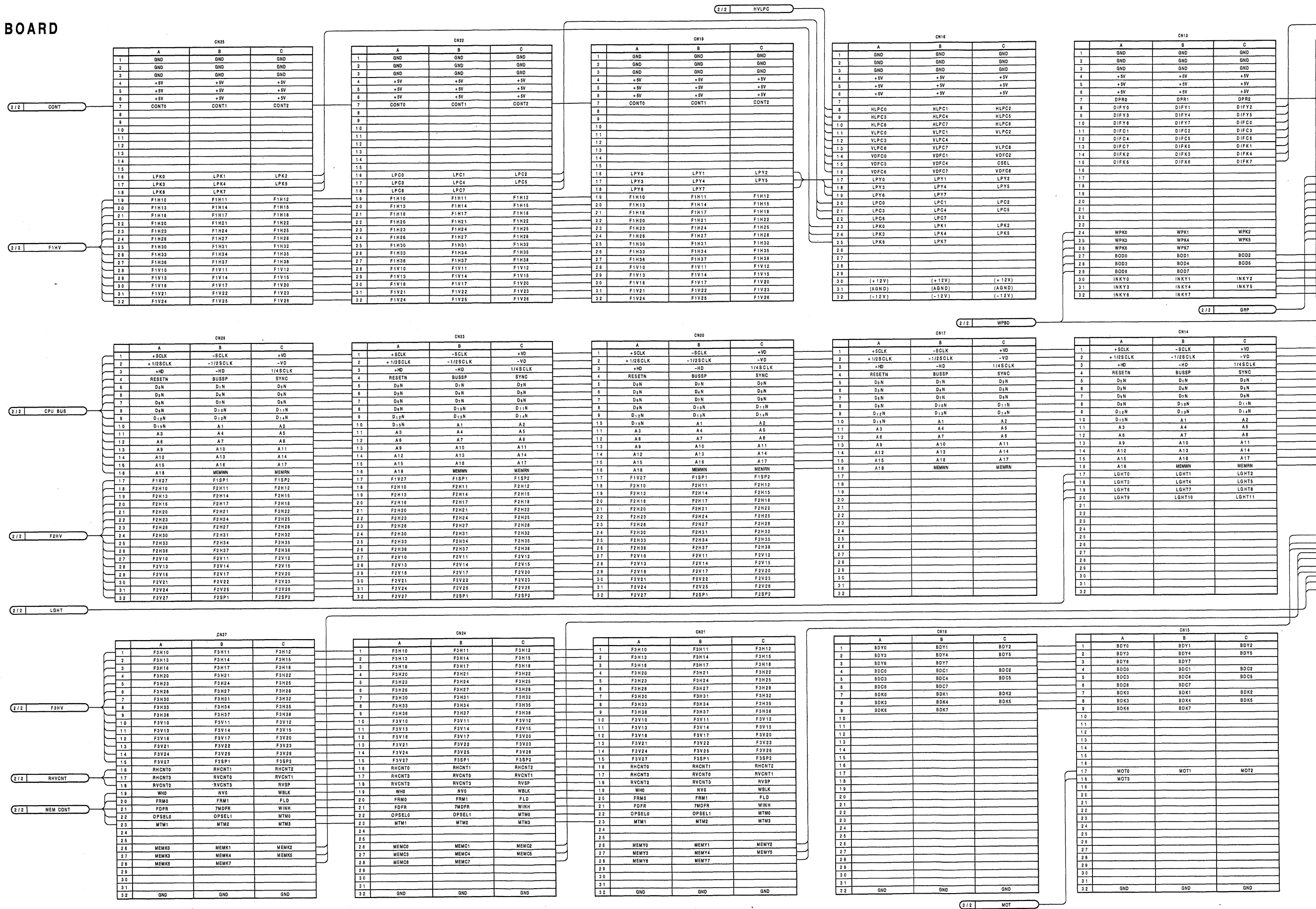
CN-463 CN-463

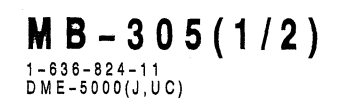


CN-463

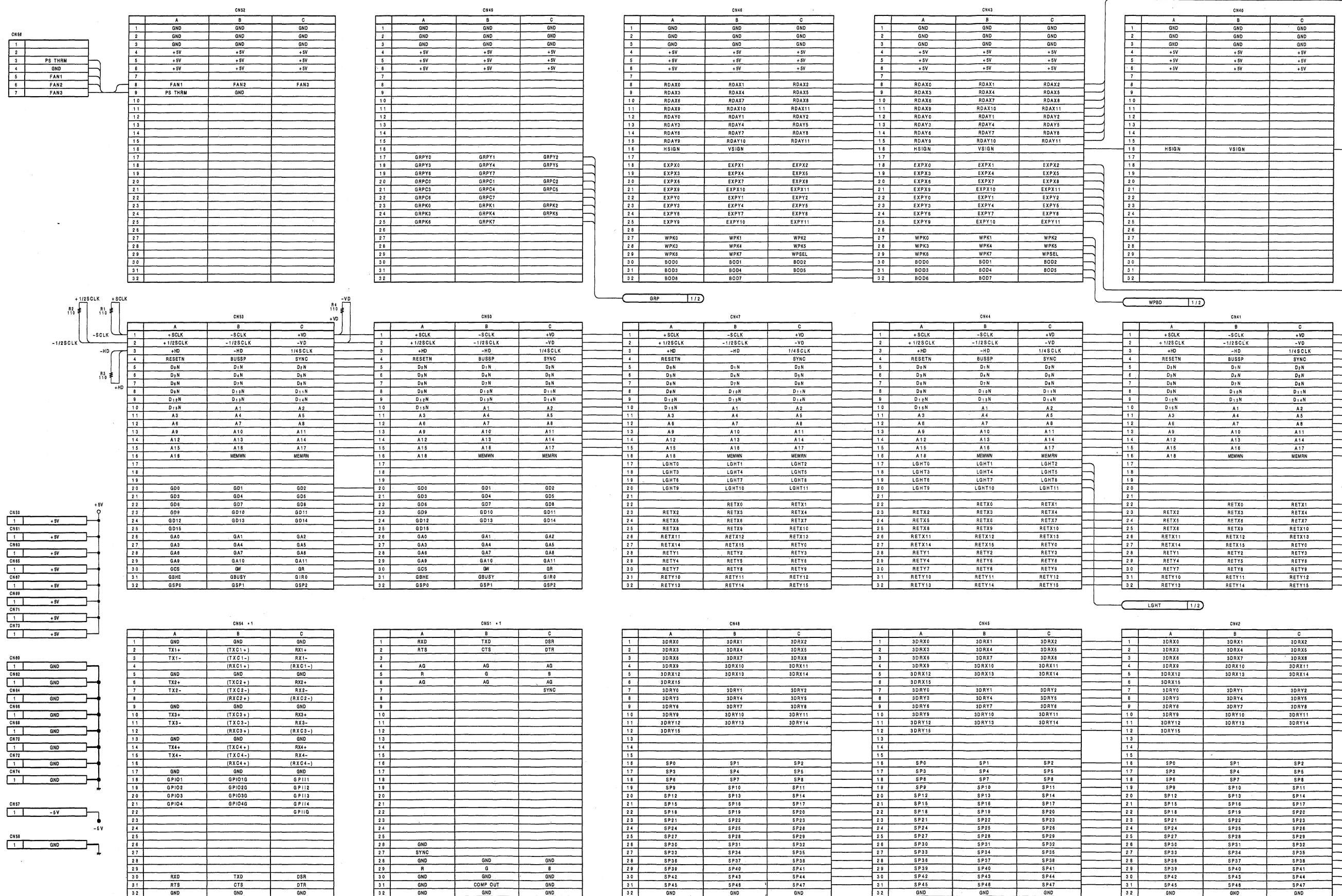
1-636-826-11  
DME-5000(J,U,C)

## MB-305;MOTHER BOARD





**MB-305;MOTHER BOARD**



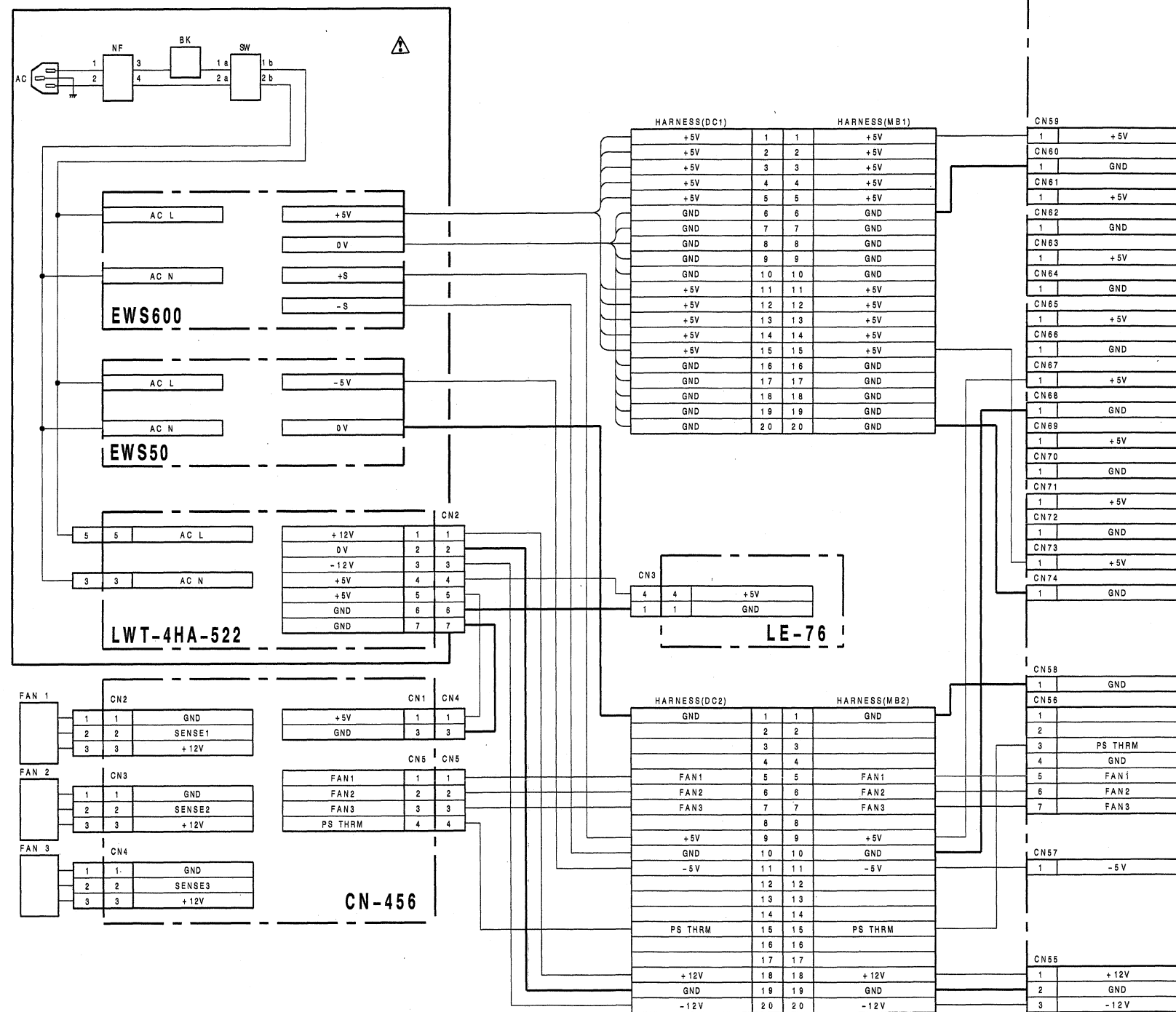
| CN40 |       |     | CN37 |       |       |
|------|-------|-----|------|-------|-------|
| 1    | GND   | GND | 1    | GND   | GND   |
| 2    | GND   | GND | 2    | GND   | GND   |
| 3    | GND   | GND | 3    | GND   | GND   |
| 4    | +5V   | +5V | 4    | +5V   | +5V   |
| 5    | +5V   | +5V | 5    | +5V   | +5V   |
| 6    | +5V   | +5V | 6    | +5V   | +5V   |
| 7    |       |     | 7    |       |       |
| 8    |       |     | 8    |       |       |
| 9    |       |     | 9    |       |       |
| 10   |       |     | 10   |       |       |
| 11   |       |     | 11   |       |       |
| 12   |       |     | 12   |       |       |
| 13   |       |     | 13   |       |       |
| 14   |       |     | 14   |       |       |
| 15   |       |     | 15   |       |       |
| 16   | VSIGN |     | 16   | HSIGN | VSIGN |
| 17   |       |     | 17   |       |       |
| 18   |       |     | 18   |       |       |
| 19   |       |     | 19   |       |       |
| 20   |       |     | 20   |       |       |
| 21   |       |     | 21   |       |       |
| 22   |       |     | 22   |       |       |
| 23   |       |     | 23   |       |       |
| 24   |       |     | 24   |       |       |
| 25   |       |     | 25   |       |       |
| 26   |       |     | 26   |       |       |
| 27   |       |     | 27   |       |       |
| 28   |       |     | 28   |       |       |
| 29   |       |     | 29   |       |       |
| 30   |       |     | 30   |       |       |
| 31   |       |     | 31   |       |       |
| 32   |       |     | 32   |       |       |

| CN34 |        |        | CN31 |        |        |
|------|--------|--------|------|--------|--------|
| 1    | GND    | GND    | 1    | GND    | GND    |
| 2    | GND    | GND    | 2    | GND    | GND    |
| 3    | GND    | GND    | 3    | GND    | GND    |
| 4    | +5V    | +5V    | 4    | +5V    | +5V    |
| 5    | +5V    | +5V    | 5    | +5V    | +5V    |
| 6    | +5V    | +5V    | 6    | +5V    | +5V    |
| 7    | CONT0  | CONT1  | 7    | CONT0  | CONT1  |
| 8    | RDAX0  | RDAX1  | 8    | RDAX0  | RDAX1  |
| 9    | RDAX2  | RDAX3  | 9    | RDAX2  | RDAX3  |
| 10   | RDAX4  | RDAX5  | 10   | RDAX4  | RDAX5  |
| 11   | RDAX6  | RDAX7  | 11   | RDAX6  | RDAX7  |
| 12   | RDAX8  | RDAX9  | 12   | RDAX8  | RDAX9  |
| 13   | RDAX10 | RDAX11 | 13   | RDAX10 | RDAX11 |
| 14   | RDAX12 | RDAX13 | 14   | RDAX12 | RDAX13 |
| 15   | RDAX14 | RDAX15 | 15   | RDAX14 | RDAX15 |
| 16   | RDAX16 | RDAX17 | 16   | RDAX16 | RDAX17 |
| 17   | RDAX18 | RDAX19 | 17   | RDAX18 | RDAX19 |
| 18   | RDAX20 | RDAX21 | 18   | RDAX20 | RDAX21 |
| 19   | RDAX22 | RDAX23 | 19   | RDAX22 | RDAX23 |
| 20   | RDAX24 | RDAX25 | 20   | RDAX24 | RDAX25 |
| 21   | RDAX26 | RDAX27 | 21   | RDAX26 | RDAX27 |
| 22   | RDAX28 | RDAX29 | 22   | RDAX28 | RDAX29 |
| 23   | RDAX30 | RDAX31 | 23   | RDAX30 | RDAX31 |
| 24   | RDAX32 | RDAX33 | 24   | RDAX32 | RDAX33 |
| 25   | RDAX34 | RDAX35 | 25   | RDAX34 | RDAX35 |
| 26   | RDAX36 | RDAX37 | 26   | RDAX36 | RDAX37 |
| 27   | RDAX38 | RDAX39 | 27   | RDAX38 | RDAX39 |
| 28   | RDAX40 | RDAX41 | 28   | RDAX40 | RDAX41 |
| 29   | RDAX42 | RDAX43 | 29   | RDAX42 | RDAX43 |
| 30   | RDAX44 | RDAX45 | 30   | RDAX44 | RDAX45 |
| 31   | RDAX46 | RDAX47 | 31   | RDAX46 | RDAX47 |
| 32   | RDAX48 | RDAX49 | 32   | RDAX48 | RDAX49 |

| CN28 |        |        | CN25 |        |        |
|------|--------|--------|------|--------|--------|
| 1    | GND    | GND    | 1    | GND    | GND    |
| 2    | GND    | GND    | 2    | GND    | GND    |
| 3    | GND    | GND    | 3    | GND    | GND    |
| 4    | +5V    | +5V    | 4    | +5V    | +5V    |
| 5    | +5V    | +5V    | 5    | +5V    | +5V    |
| 6    | +5V    | +5V    | 6    | +5V    | +5V    |
| 7    | CONT0  | CONT1  | 7    | CONT0  | CONT1  |
| 8    | RDAX0  | RDAX1  | 8    | RDAX0  | RDAX1  |
| 9    | RDAX2  | RDAX3  | 9    | RDAX2  | RDAX3  |
| 10   | RDAX4  | RDAX5  | 10   | RDAX4  | RDAX5  |
| 11   | RDAX6  | RDAX7  | 11   | RDAX6  | RDAX7  |
| 12   | RDAX8  | RDAX9  | 12   | RDAX8  | RDAX9  |
| 13   | RDAX10 | RDAX11 | 13   | RDAX10 | RDAX11 |
| 14   | RDAX12 | RDAX13 | 14   | RDAX12 | RDAX13 |
| 15   | RDAX14 | RDAX15 | 15   | RDAX14 | RDAX15 |
| 16   | RDAX16 | RDAX17 | 16   | RDAX16 | RDAX17 |
| 17   | RDAX18 | RDAX19 | 17   | RDAX18 | RDAX19 |
| 18   | RDAX20 | RDAX21 | 18   | RDAX20 | RDAX21 |
| 19   | RDAX22 | RDAX23 | 19   | RDAX22 | RDAX23 |
| 20   | RDAX24 | RDAX25 | 20   | RDAX24 | RDAX25 |
| 21   | RDAX26 | RDAX27 | 21   | RDAX26 | RDAX27 |
| 22   | RDAX28 | RDAX29 | 22   | RDAX28 | RDAX29 |
| 23   | RDAX30 | RDAX31 | 23   | RDAX30 | RDAX31 |
| 24   | RDAX32 | RDAX33 | 24   | RDAX32 | RDAX33 |
| 25   | RDAX34 | RDAX35 | 25   | RDAX34 | RDAX35 |
| 26   | RDAX36 | RDAX37 | 26   | RDAX36 | RDAX37 |
| 27   | RDAX38 | RDAX39 | 27   | RDAX38 | RDAX39 |
| 28   | RDAX40 | RDAX41 | 28   | RDAX40 | RDAX41 |
| 29   | RDAX42 | RDAX43 | 29   | RDAX42 | RDAX43 |
| 30   | RDAX44 | RDAX45 | 30   | RDAX44 | RDAX45 |
| 31   | RDAX46 | RDAX47 | 31   | RDAX46 | RDAX47 |
| 32   | RDAX48 | RDAX49 | 32   | RDAX48 | RDAX49 |



FRAME



| CN1(TO CN3/MB-305) |             |           | CN3(TO CN) |  |  |
|--------------------|-------------|-----------|------------|--|--|
| A                  | B           | C         |            |  |  |
| 1                  | GEN LOCK    | GND       | 1          |  |  |
| 2                  | GND         |           | 2          |  |  |
| 3                  |             |           | 3          |  |  |
| 4                  |             |           | 4          |  |  |
| 5                  |             |           | 5          |  |  |
| 6                  |             |           | 6          |  |  |
| 7                  |             |           | 7          |  |  |
| 8                  |             |           | 8          |  |  |
| 9                  |             |           | 9          |  |  |
| 10                 |             |           | 10         |  |  |
| 11                 | GND         | GND       | 11         |  |  |
| 12                 | Y/VBS IN    | GND       | 12         |  |  |
| 13                 | GND         | R-Y IN    | 13         |  |  |
| 14                 | B-Y IN      | GND       | 14         |  |  |
| 15                 | GND         | KEY IN    | 15         |  |  |
| 16                 |             | GND       | 16         |  |  |
| 17                 | GND         | GND       | 17         |  |  |
| 18                 | Y/VBS OUT 1 | GND       | 18         |  |  |
| 19                 | GND         | R-Y OUT 1 | 19         |  |  |
| 20                 | B-Y OUT 1   | GND       | 20         |  |  |
| 21                 | GND         | KEY OUT 1 | 21         |  |  |
| 22                 | Y/VBS OUT 2 | GND       | 22         |  |  |
| 23                 | GND         | R-Y OUT 2 | 23         |  |  |
| 24                 | B-Y OUT 2   | GND       | 24         |  |  |
| 25                 | GND         | KEY OUT 2 | 25         |  |  |
| 26                 | GND         | GND       | 26         |  |  |
| 27                 | DSV IN      | GND       | 27         |  |  |
| 28                 | GND         | DSK IN    | 28         |  |  |
| 29                 | DSV OUT 1   | GND       | 29         |  |  |
| 30                 | GND         | DSV OUT 2 | 30         |  |  |
| 31                 | DSK OUT 1   | GND       | 31         |  |  |
| 32                 | GND         | DSK OUT 2 | 32         |  |  |

































  

| CN2(TO CN8/MB-305) |           |   | CN4 |     |  |
|--------------------|-----------|---|-----|-----|--|
| A                  | B         | C |     |     |  |
| 1                  |           |   | 1   | DSK |  |
| 2                  |           |   | 2   |     |  |
| 3                  |           |   | 3   |     |  |
| 4                  |           |   | 4   |     |  |
| 5                  |           |   | 5   |     |  |
| 6                  |           |   | 6   | KEY |  |
| 7                  |           |   | 7   |     |  |
| 8                  |           |   | 8   |     |  |
| 9                  |           |   | 9   |     |  |
| 10                 |           |   | 10  |     |  |
| 11                 |           |   | 11  | R-Y |  |
| 12                 |           |   | 12  |     |  |
| 13                 |           |   | 13  |     |  |
| 14                 |           |   | 14  |     |  |
| 15                 |           |   | 15  |     |  |
| 16                 |           |   | 16  |     |  |
| 17                 |           |   | 17  | KEY |  |
| 18                 |           |   | 18  |     |  |
| 19                 |           |   | 19  |     |  |
| 20                 |           |   | 20  |     |  |
| 21                 |           |   | 21  | R-Y |  |
| 22                 |           |   | 22  |     |  |
| 23                 |           |   | 23  |     |  |
| 24                 |           |   | 24  |     |  |
| 25                 |           |   | 25  |     |  |
| 26                 |           |   | 26  |     |  |
| 27                 |           |   | 27  | KEY |  |
| 28                 |           |   | 28  |     |  |
| 29                 | DSV OUT 1 |   | 29  |     |  |
| 30                 | GND       |   | 30  |     |  |
| 31                 | DSK OUT 1 |   | 31  |     |  |
| 32                 | GND       |   | 32  | R-Y |  |

MB-305

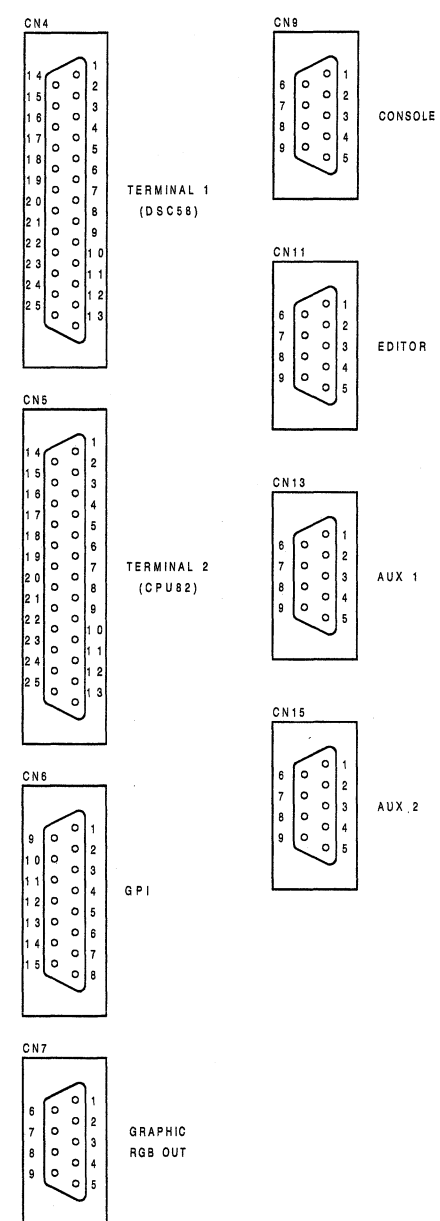
## FRAME

[illegible]

|  |   |  |  |  |
|--|---|--|--|--|
|  CN4<br>DSK IN      |  CN11<br>GL            |  CN18<br>Y/VBS IN     |  CN25<br>CMBY OUT 1   |  CN32<br>CMBC OUT 2   |
|  CN5<br>KEY OUT 2 |  CN12<br>DSV IN      |  CN19<br>GL         |  CN26<br>CMBK IN    |  CN33<br>CMBY OUT 2 |
|  CN6<br>R-Y OUT 2 |  CN13<br>B-Y OUT 2   |  CN20<br>DSV OUT 2  |  CN27<br>CMBY IN    |  CN34<br>CMBZ IN    |
|  CN7<br>KEY OUT 1 |  CN14<br>Y/VBS OUT 2 |  CN21<br>DSK OUT 2  |  CN28<br>DSV OUT 1  |  CN35<br>CMBC IN    |
|  CN8<br>R-Y OUT 1 |  CN15<br>B-Y OUT 1   |  CN22<br>CMBZ OUT 2 |  CN29<br>DSK OUT 1  |  |
|  CN9<br>KEY IN    |  CN16<br>Y/VBS OUT 1 |  CN23<br>CMBK OUT 1 |  CN30<br>CMBZ OUT 2 |  |
|  CN10<br>R-Y IN   |  CN17<br>B-Y IN      |  CN24<br>CMBC OUT 1 |  CN31<br>CMBK OUT 2 |  |

**CN-463**

| CN3(TO CN54/MB-305) |      |          |     |
|---------------------|------|----------|-----|
|                     | A    | B        | C   |
| 1                   | RXD  | TXD      |     |
| 2                   |      |          |     |
| 3                   |      |          |     |
| 4                   |      |          |     |
| 5                   |      |          |     |
| 6                   |      |          |     |
| 7                   |      |          |     |
| 8                   |      |          |     |
| 9                   |      |          |     |
| 10                  |      |          |     |
| 11                  |      |          |     |
| 12                  |      |          |     |
| 13                  |      |          |     |
| 14                  |      |          |     |
| 15                  |      |          |     |
| 16                  |      |          |     |
| 17                  |      |          |     |
| 18                  |      |          |     |
| 19                  |      |          |     |
| 20                  |      |          |     |
| 21                  |      |          |     |
| 22                  |      |          |     |
| 23                  |      |          |     |
| 24                  |      |          |     |
| 25                  |      |          |     |
| 26                  | GND  |          |     |
| 27                  | SYNC |          |     |
| 28                  | GND  | GND      | GND |
| 29                  | R    | G        | B   |
| 30                  | GND  | GND      | GND |
| 31                  | GND  | COMP OUT | GND |
| 32                  | GND  | GND      | GND |



DME-5000(J,UC)

SECTION 9  
PRINTED CIRCUIT BOARD  
ALU-11;REALTIME NUMERIC DATA PROCESSOR

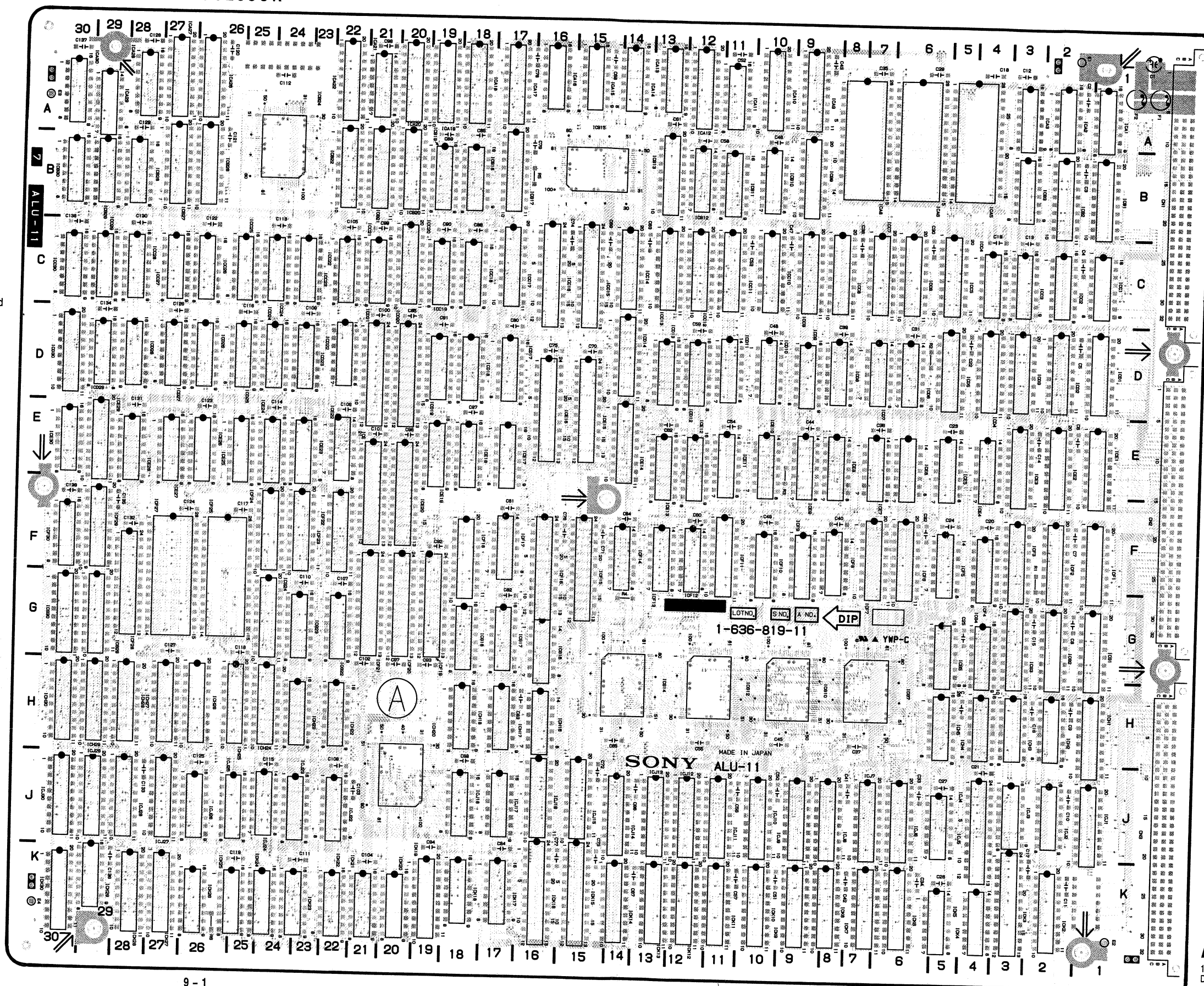
ALU-11

CN1 B-1  
CN2 F-1  
CN3 J-1

E1 A-2  
E2 K-1  
E3 A-30  
E4 K-30

F1 A-1  
F2 A-1

NOTE:  
IC NO. on this board  
show its address.



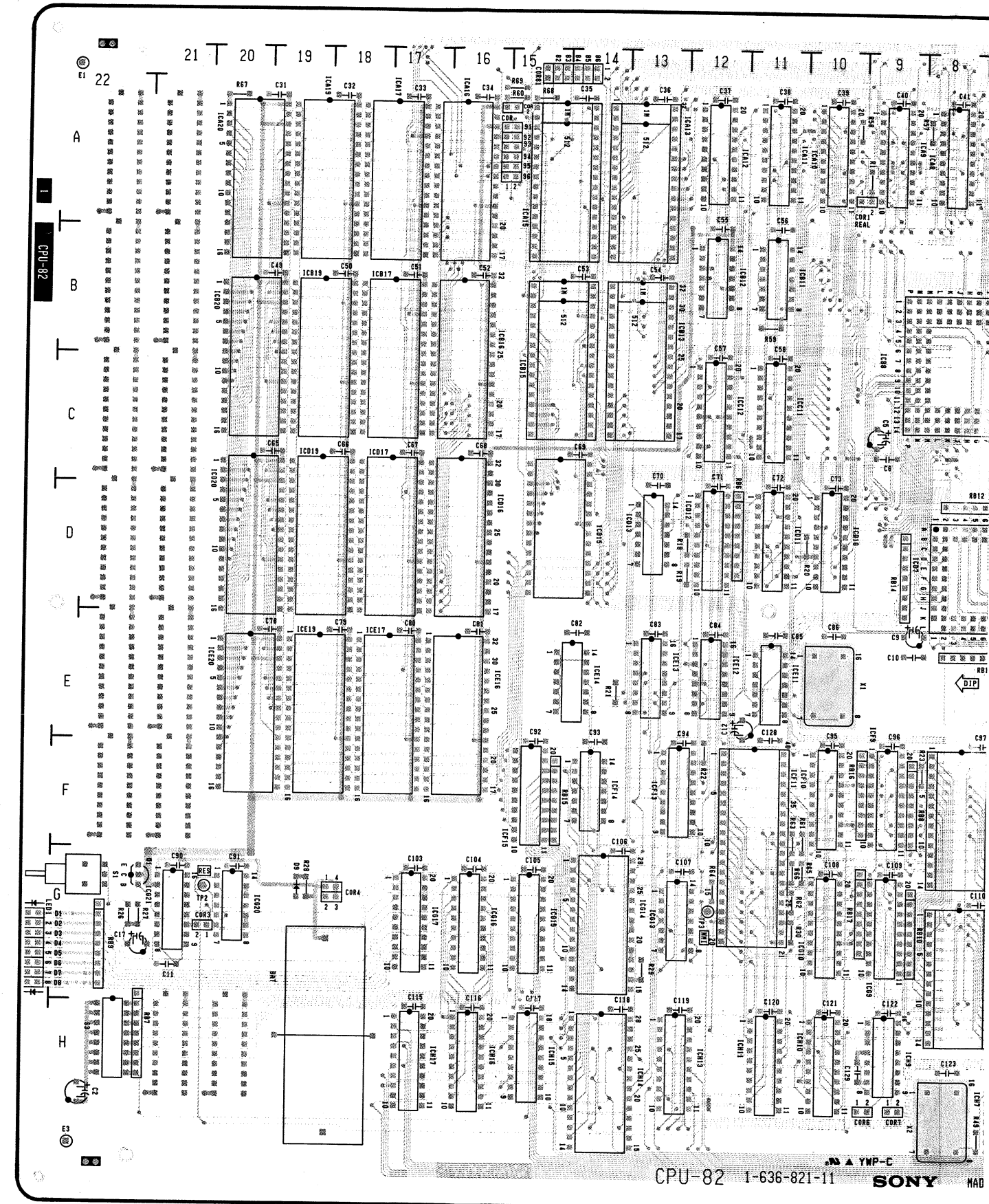


CPU-82;SYSTEM CONTROL AND COMMUNICATION

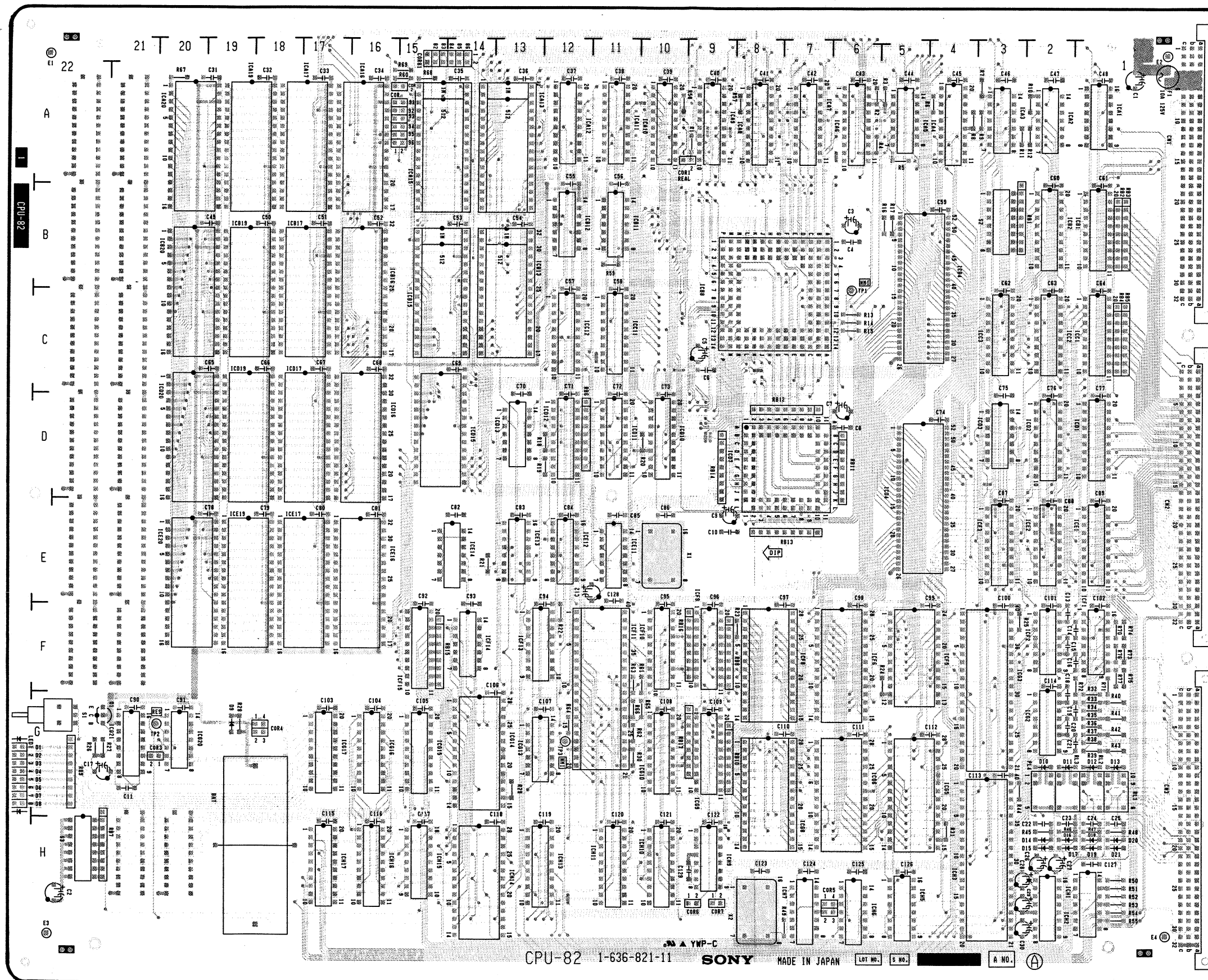
CPU-82

|      |      |      |      |
|------|------|------|------|
| CN1  | A-1  | RB1  | B-2  |
| CN2  | E-1  | RB2  | B-1  |
| CN3  | G-1  | RB3  | B-1  |
|      |      | RB4  | C-1  |
| COR1 | A-10 | RB5  | C-1  |
| COR2 | A-15 | RB6  | C-12 |
| COR3 | G-21 | RB7  | H-21 |
| COR4 | G-18 | RB8  | F-8  |
| COR5 | H-7  | RB9  | G-22 |
| COR6 | H-9  | RB10 | G-8  |
| COR7 | H-9  | RB11 | D-6  |
| COR8 | A-15 | RB12 | D-8  |
| COR9 | A-16 | RB13 | E-7  |
|      |      | RB14 | D-9  |
| D1   | G-22 | RB15 | F-14 |
| D2   | G-22 | RB16 | F-10 |
| D3   | G-22 | RB17 | G-10 |
| D4   | G-22 |      |      |
| D5   | G-22 | RY1  | G-1  |
| D6   | G-22 | RY2  | G-1  |
| D7   | G-22 | RY3  | G-1  |
| D8   | G-22 | RY4  | G-2  |
| D9   | G-19 |      |      |
| D10  | G-2  | S1   | G-22 |
| D11  | G-2  | S2   | B-3  |
| D12  | G-1  | S3   | H-22 |
| D13  | G-1  |      |      |
| D14  | H-2  | TP1  | C-6  |
| D15  | H-2  | TP2  | G-21 |
| D16  | H-2  | TP3  | G-12 |
| D17  | H-2  |      |      |
| D18  | H-1  | X1   | E-9  |
| D19  | H-1  | X2   | H-9  |
| D20  | H-1  |      |      |
| D21  | H-1  |      |      |
| E1   | A-22 |      |      |
| E2   | A-1  |      |      |
| E3   | H-22 |      |      |
| E4   | H-1  |      |      |
| F1   | A-1  |      |      |
| Q1   | G-21 |      |      |

NOTE:  
IC NO. on this board  
show its address.



CPU-82 1-636-821-11 SONY M4D

2  
1  
1  
1  
1  
12  
21  
8  
22  
8  
6  
8  
7  
9  
14  
10  
101  
1  
1  
2  
22  
3  
22  
21  
129  
9

CPU-82 -A SIDE-  
1-636-821-11  
DME-5000(J,UC)



## DLP-9; HORIZONTAL AND VERTICAL LOW PASS FILTER

DLP-9

CN1 B-1  
 CN2 E-1  
 CN3 J-1  
 CN4 A-14  
 CN5 A-21  
 CN6 A-23  
 CN7 K-14  
 CN8 K-21

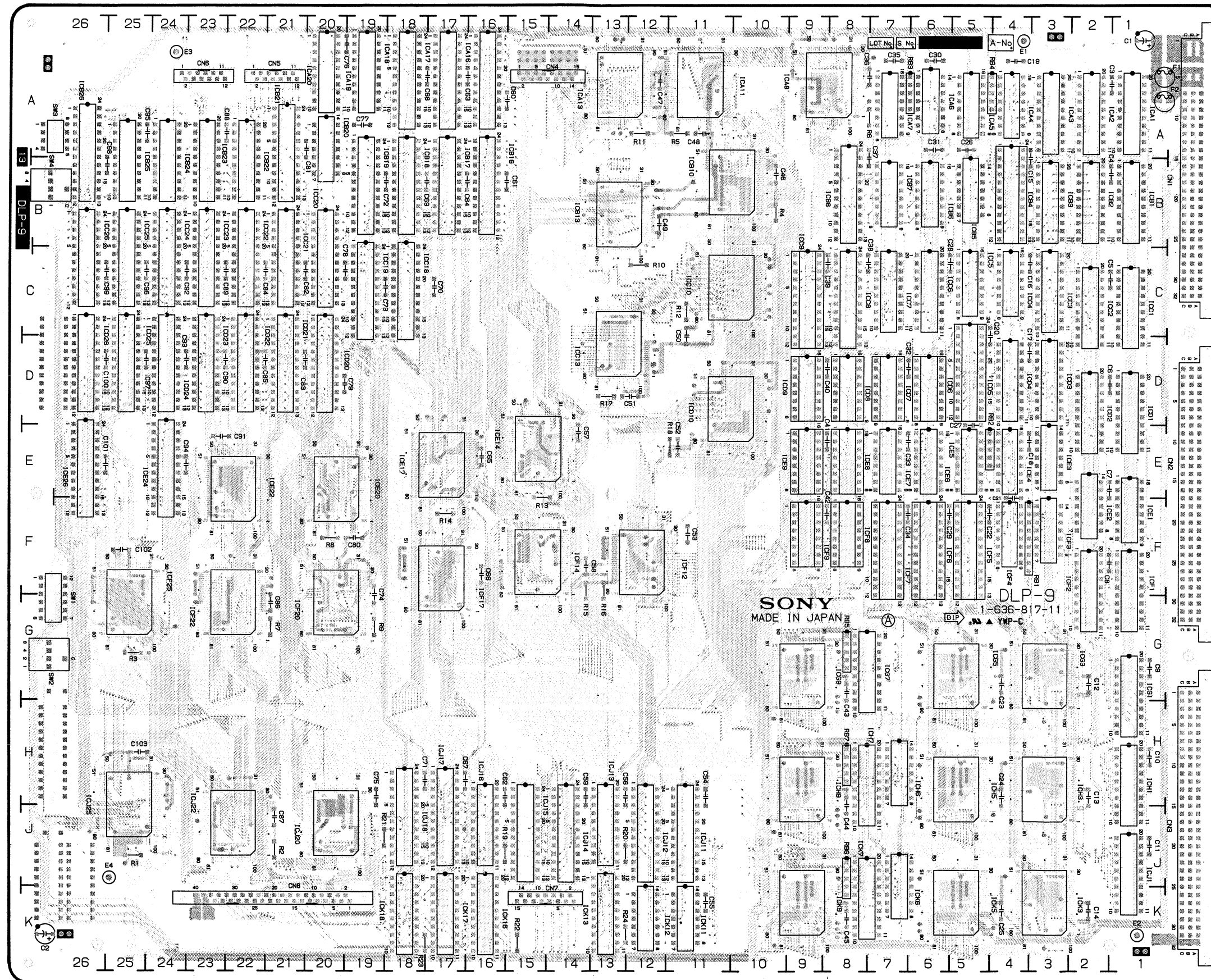
E1 A-4  
 E2 K-1  
 E3 A-24  
 E4 J-25

F1 A-1  
 F2 A-2

RB1 H-4  
 RB2 E-5  
 RB3 A-6  
 RB4 A-5  
 RB5 G-8  
 RB6 J-8  
 RB7 H-8

S1 F-26  
 S2 G-26  
 S3 A-26  
 S4 B-26

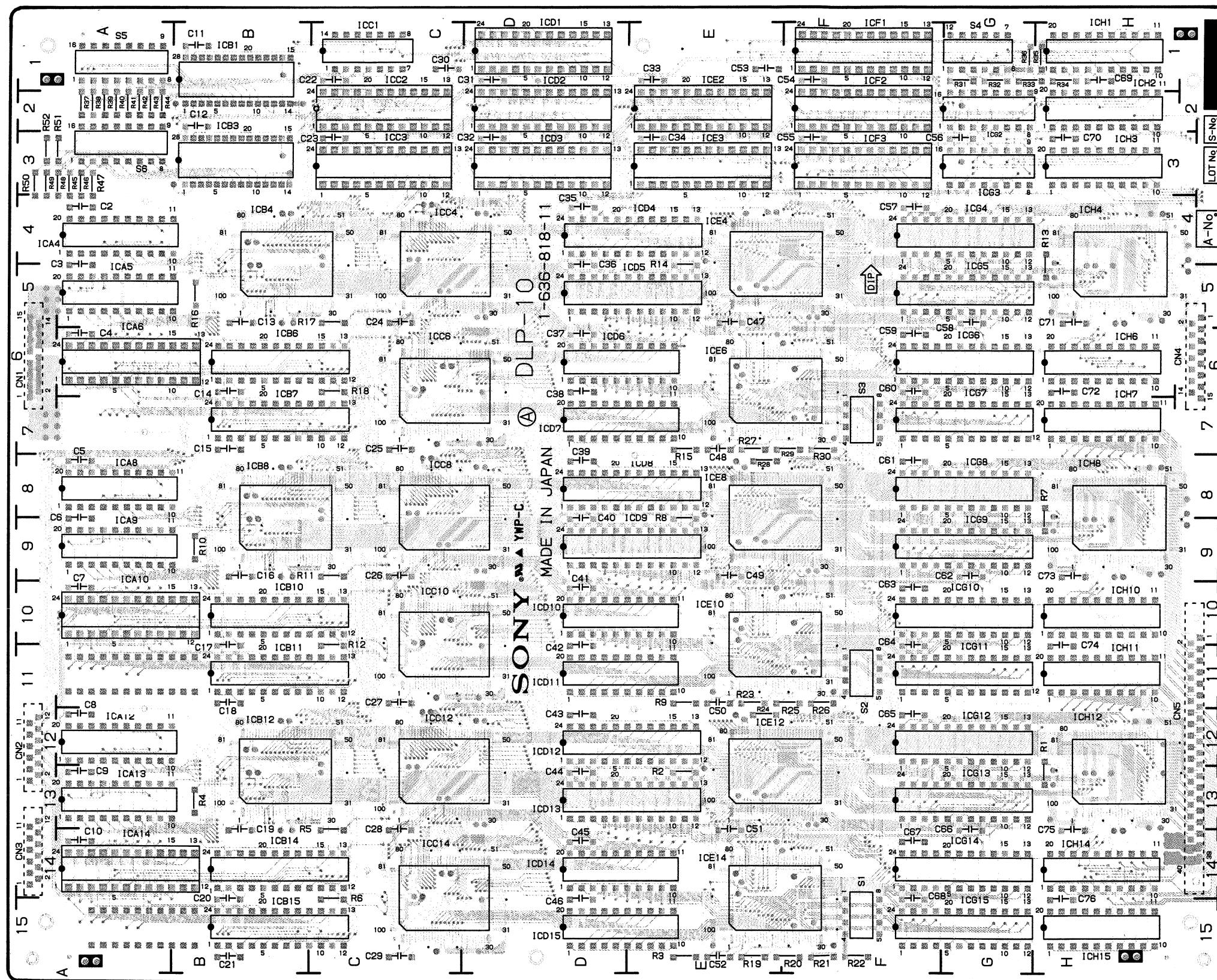
NOTE:  
 IC NO. on this board  
 show its address.



DLP-9 -A SIDE-

1-636-817-11  
 DME-5000(J,UC)

DLP-10;IIR VERTICAL LOW PASS FILTER



DLP-10

- \*CN1 A-6
- \*CN2 A-12
- \*CN3 A-14
- \*CN4 H-6
- \*CN5 H-12

- S1 F-14
- S2 F-11
- S3 F-6
- S4 G-1
- S5 A-1
- S6 A-2

NOTE:  
IC NO. on this board  
show its address.

\*:B SIDE

DLP-10 -A SIDE-

1-636-818-11  
DME-5000(J,U,C)



## DPR-15;INPUT PIXEL EFFECT GENERATOR AND MONITOR DETECT

## DPR-16;OUTPUT RECURSIVE EFFECT GENERATOR AND BORDER GENERATOR

DPR-16

CN1 B-1  
CN2 G-1  
CN3 L-1

COR1 G-35  
COR2 C-33  
COR3 G-33  
COR4 C-33  
COR5 D-32

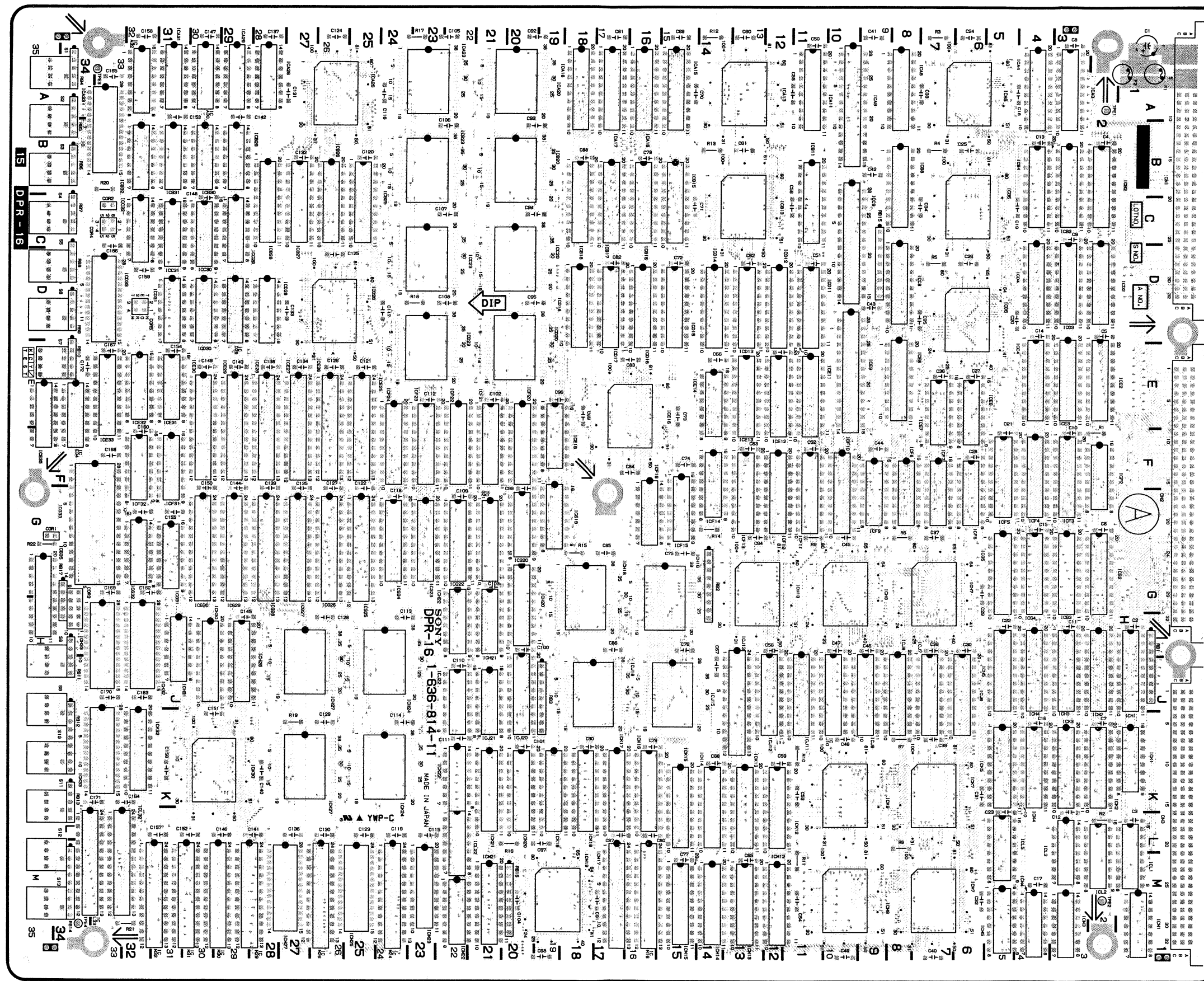
E1 A-2  
E2 M-2  
E3 A-33  
E4 M-34

F1 A-1  
F2 A-1

RB1 H-1  
RB2 G-14  
RB3 J-19  
RB4 A-34  
RB5 B-34  
RB6 B-34  
RB7 C-34  
RB8 D-34  
RB9 D-34  
RB10 E-34  
RB11 J-34  
RB12 K-34  
RB13 K-34  
RB14 M-34  
RB15 C-9  
RB16 M-20  
RB17 G-34

S1 A-34  
S2 A-34  
S3 B-34  
S4 C-34  
S5 C-34  
S6 D-34  
S7 E-35  
S8 H-34  
S9 J-34  
S10 K-34  
S11 K-34  
S12 L-34  
S13 M-34

NOTE:  
IC NO.on this board  
show its address.



DPR-16 -A SIDE-

1-636-814-11  
DME-5000(J,UC)



## DPR-17; MEMORY ADDRESS SELECTOR AND WRITE ADDRESS GENERATOR

DPR-17

CN1 B-1  
CN2 E-1  
CN3 H-1

COR1 F-9  
COR2 E-11  
COR3 E-11

DL1 F-11

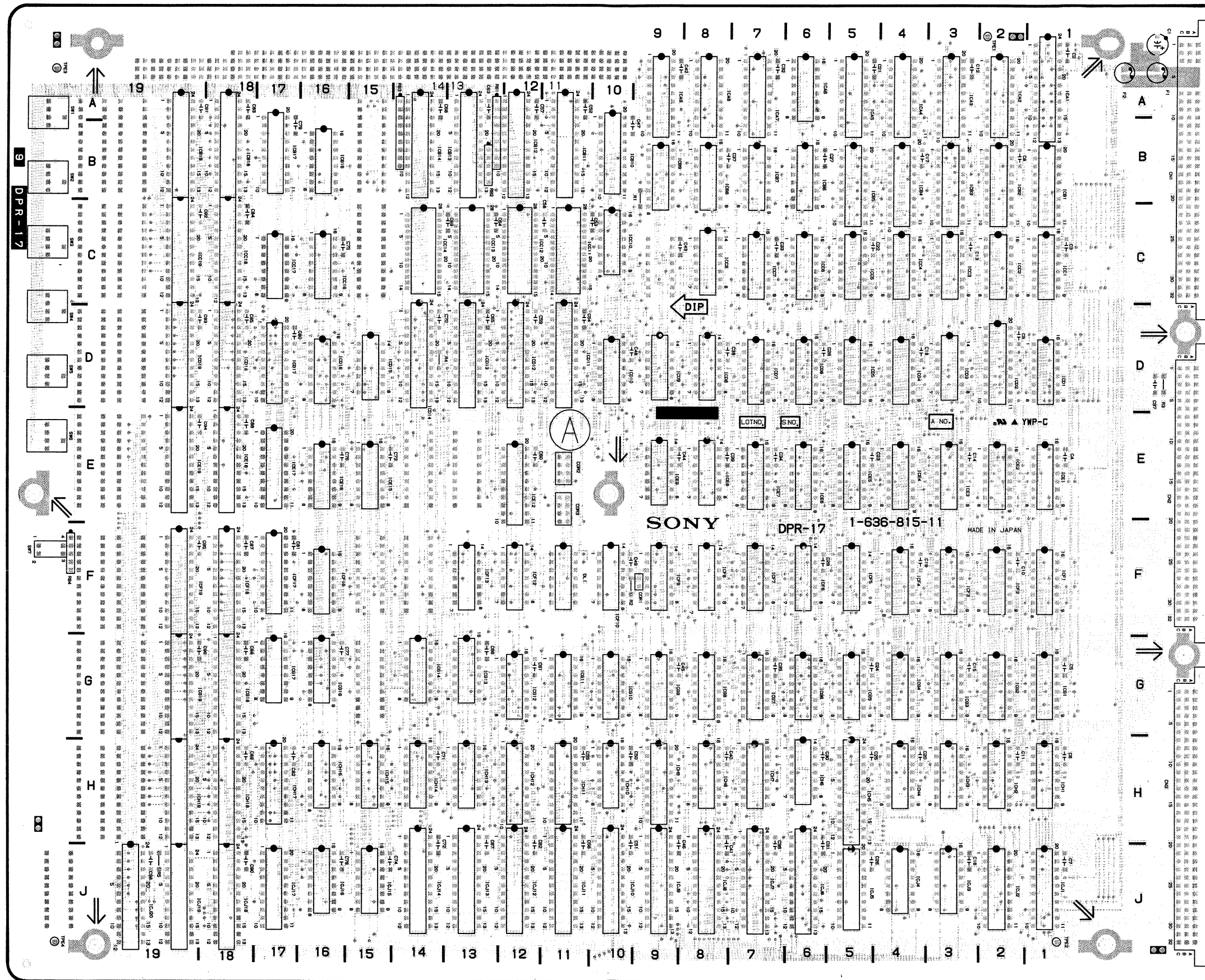
E1 A-2  
E2 J-1  
E3 A-19  
E4 J-19

F1 A-1  
F2 A-1

RB1 A-13  
RB2 B-13  
RB3 A-14  
RB4 F-19

SW1 A-19  
SW2 B-19  
SW3 C-19  
SW4 D-19  
SW5 D-19  
SW6 E-19  
SW7 F-19

NOTE:  
IC NO. on this board  
show its address.



## DPR-18; READ ADDRESS GENERATOR AND SPLIT MIRROR GENERATOR

DPR-18

CN1 B-0  
CN2 E-0  
CN3 H-0

COR2 B-19

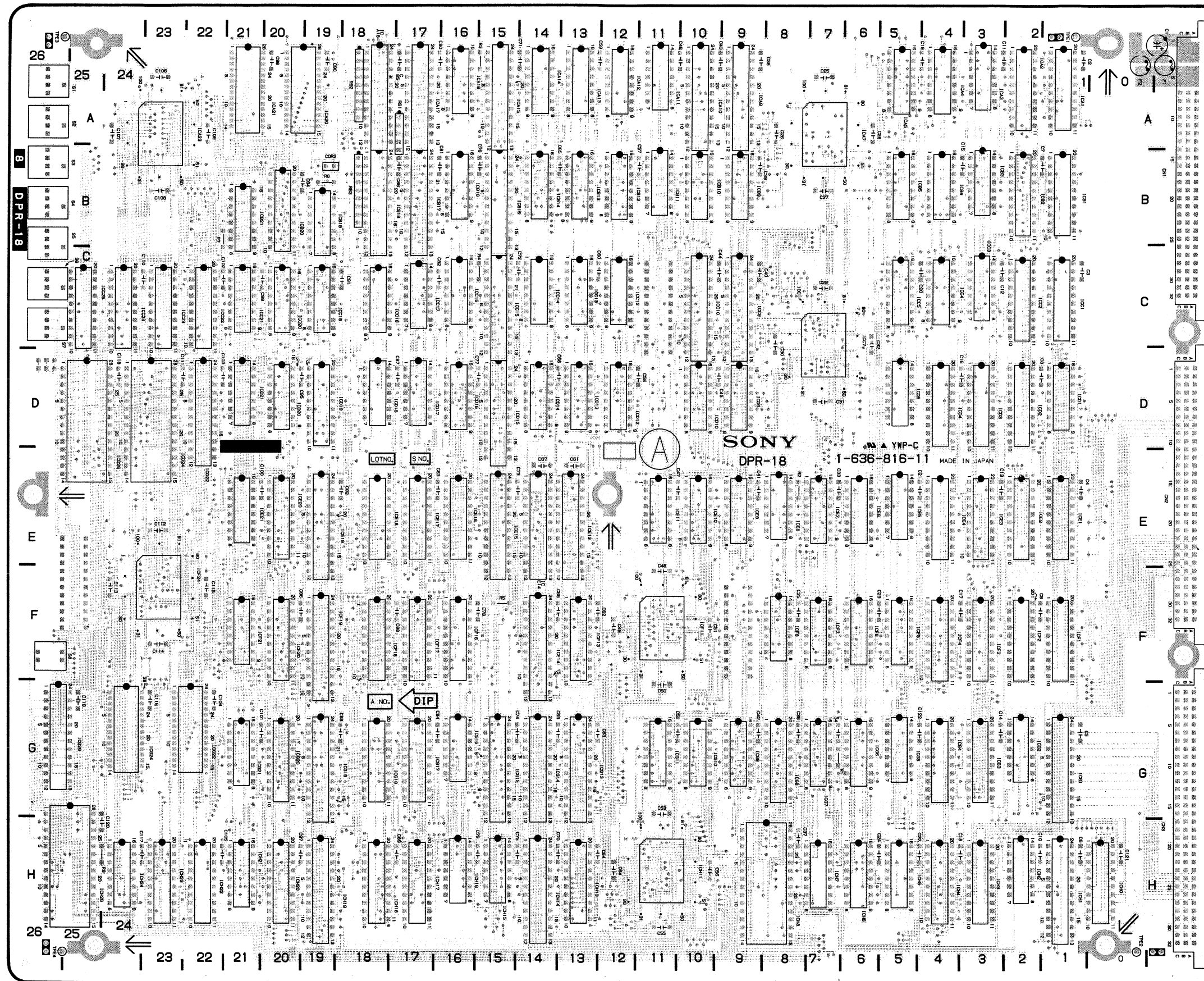
E1 A-1  
E2 H-1  
E3 A-26  
E4 H-26

F1 A-0  
F2 A-0

RB1 A-17  
RB2 A-18  
RB3 B-18

S1 A-25  
S2 A-25  
S3 B-25  
S4 B-25  
S5 B-25  
S6 C-25  
S7 C-26  
S8 F-25

NOTE:  
IC NO. on this board  
show its address.



DPR-18 -A SIDE-  
1-636-816-11  
DME-5000(J,U,C)



## MEM-41;3 FIELD VIDEO MEMORY AND INTERPOLATOR

MEM-41

CN1 B-1  
CN2 E-1  
CN3 H-1

COR1 J-5  
COR2 G-12  
COR3 H-12

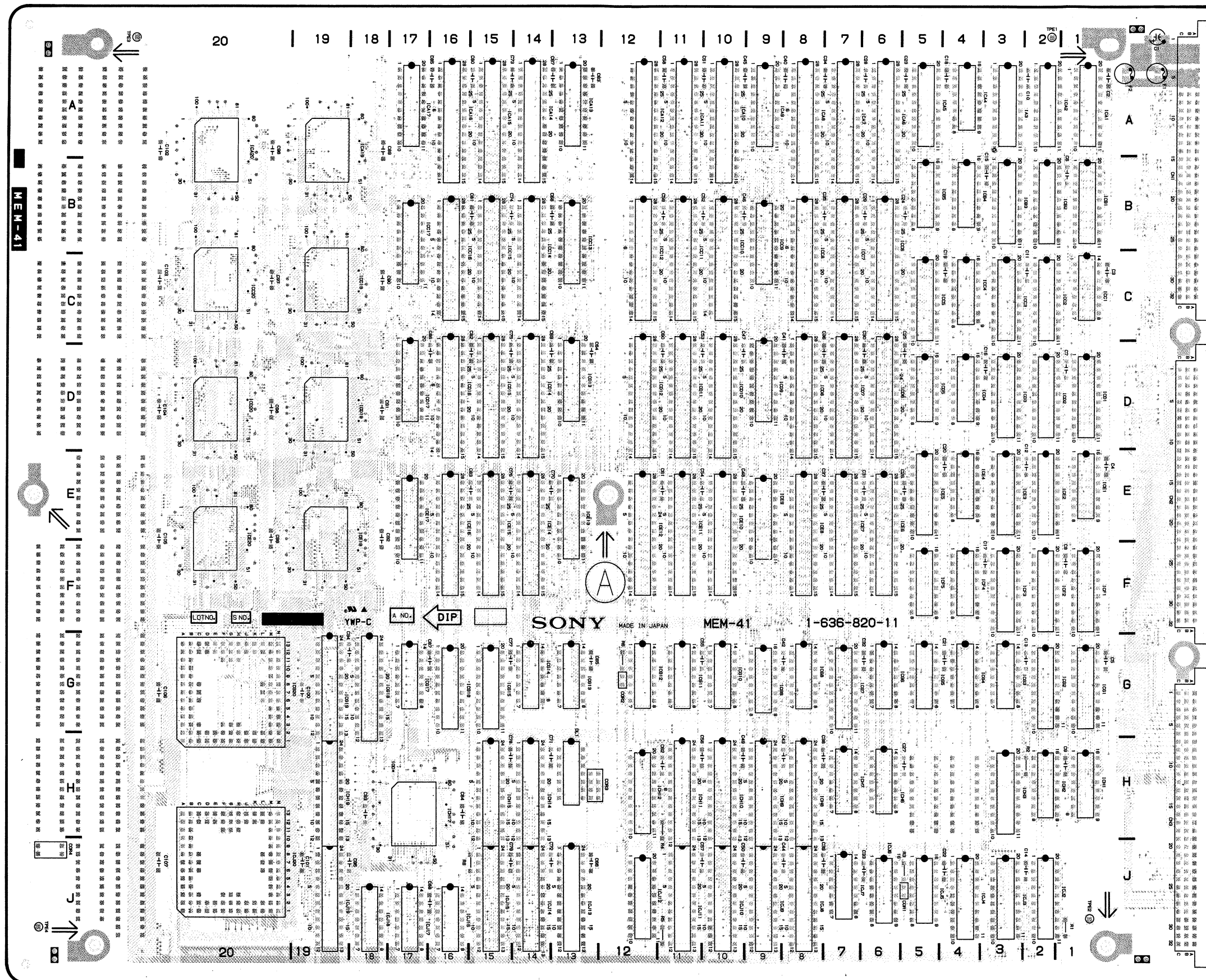
DL1 H-13

E1 A-2  
E2 J-1  
E3 A-20  
E4 J-20

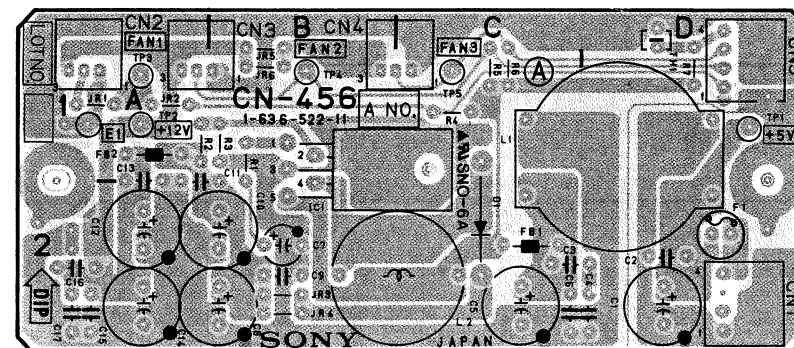
F1 A-1  
F2 A-1

S1 J-20

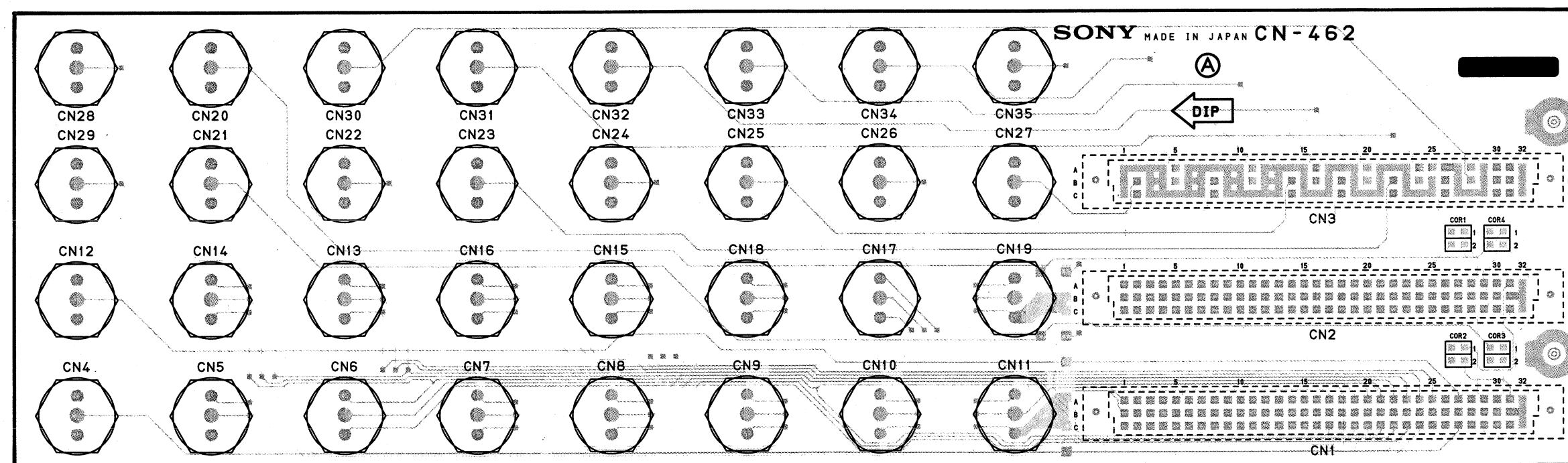
NOTE:  
IC NO. on this board  
show its address.



CN-456;POWER SUPPLY CONNECTOR BOARD  
CN-462;BNC CONNECTOR BOARD

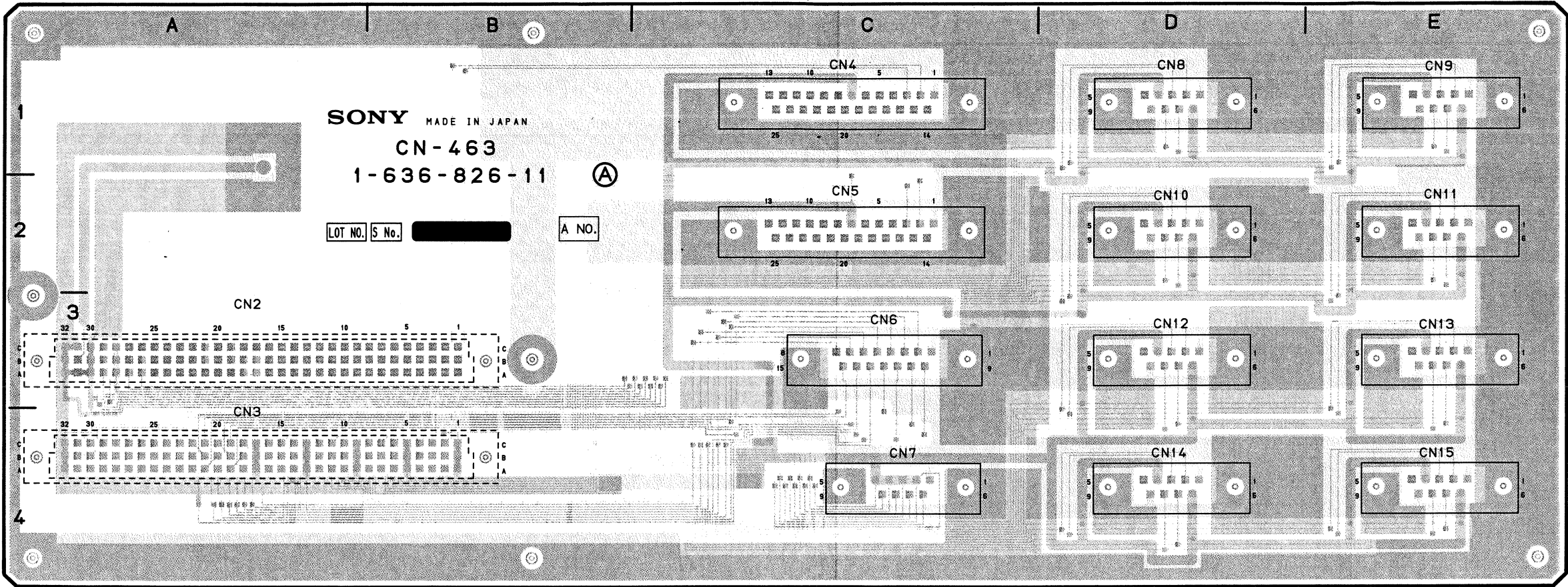


**CN-456 -A SIDE-**  
1-636-522-11  
DME-5000(J,U,C)



**CN-462 -A SIDE-**  
1-636-825-11  
DME-5000(J,U,C)

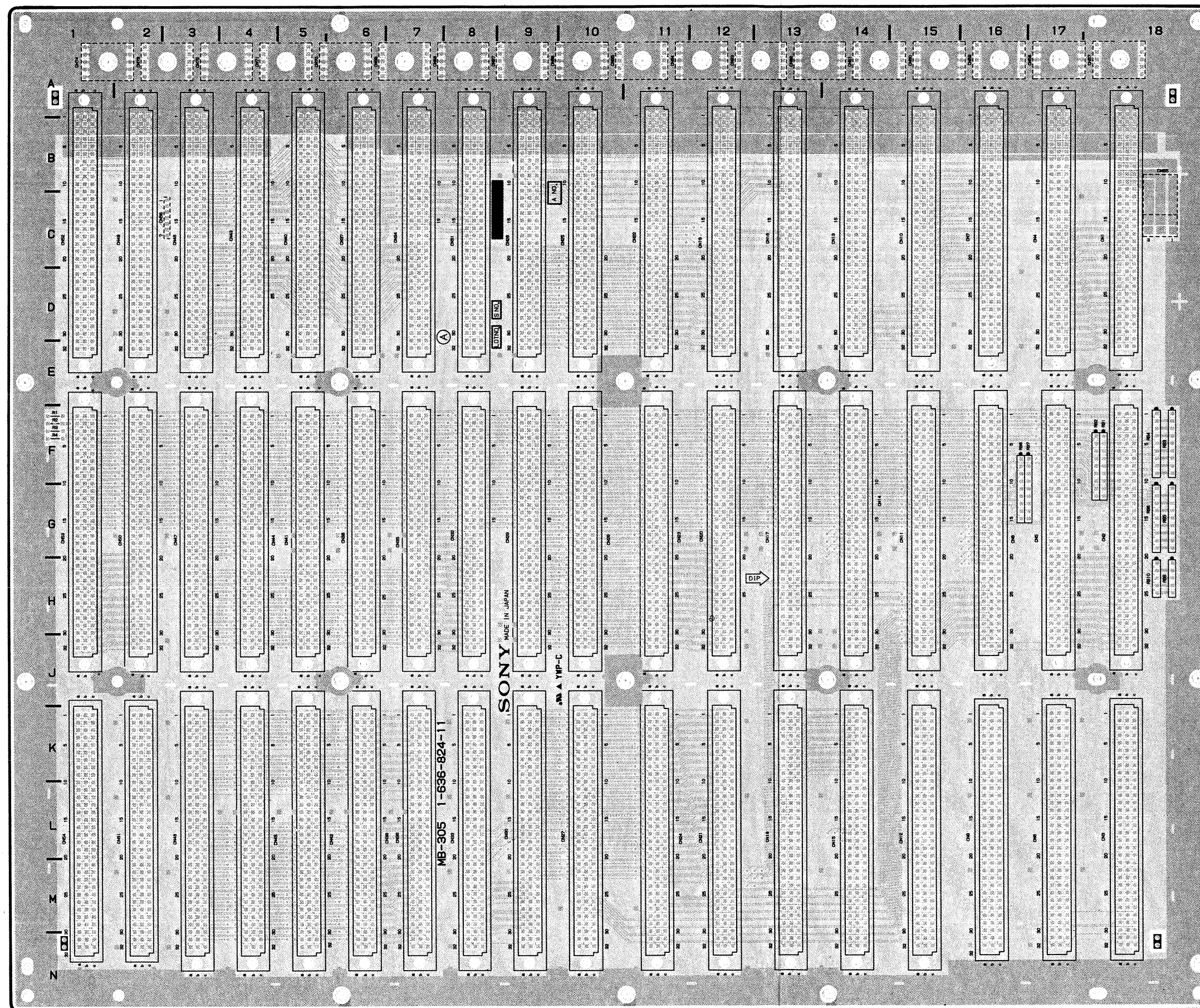
CN-463;D SUB CONNECTOR BOARD



CN-463 -A SIDE-  
1-636-826-11  
DME-5000(J,UC)



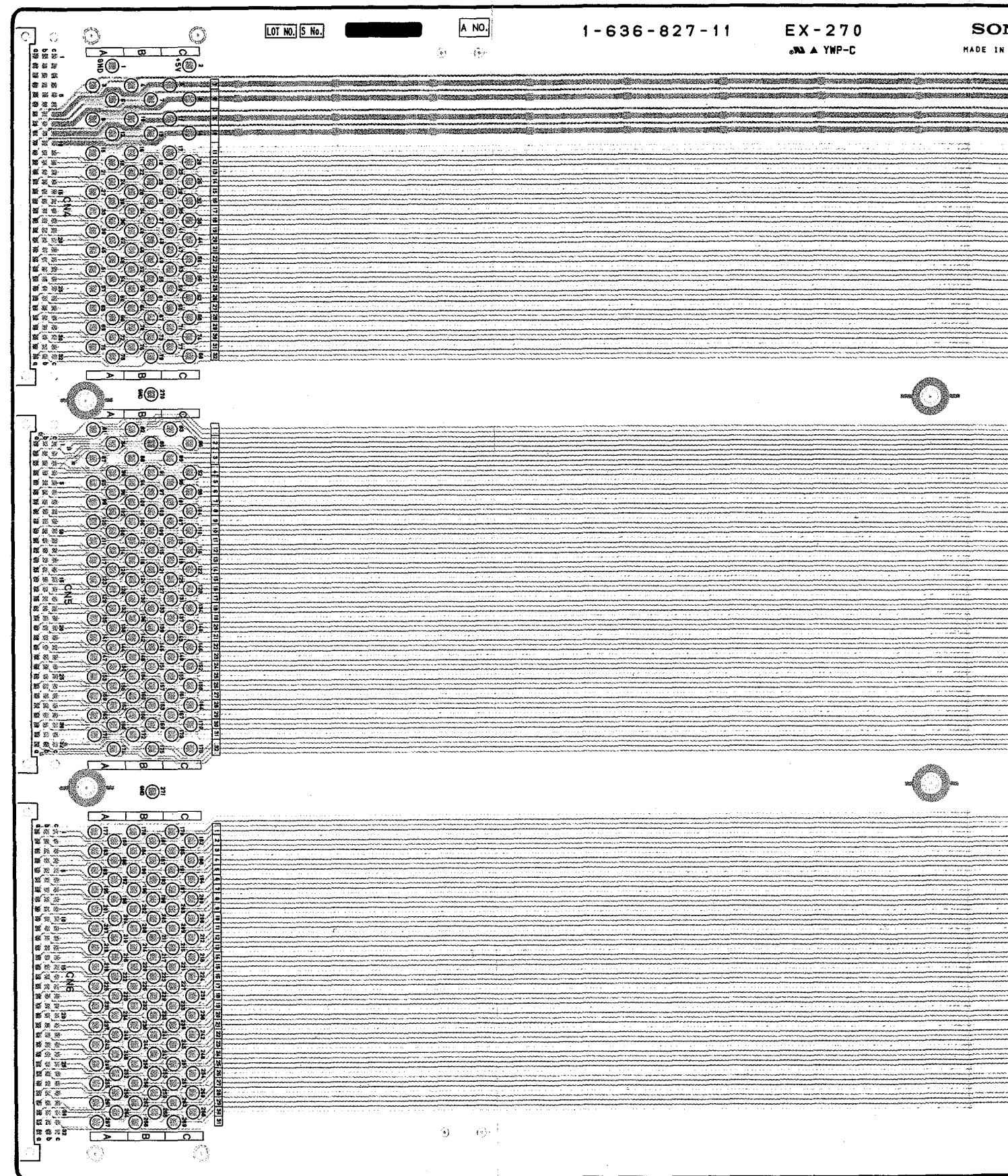
MB-305;MOTHER BOARD

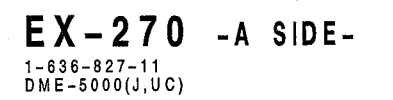


MB-305 -A SIDE-  
1-636-824-11  
DME-5000(J,UC)



EX-270;EXTENSION BOARD





## SECTION 10 SPARE PARTS

### 10-1. PARTS INFORMATION

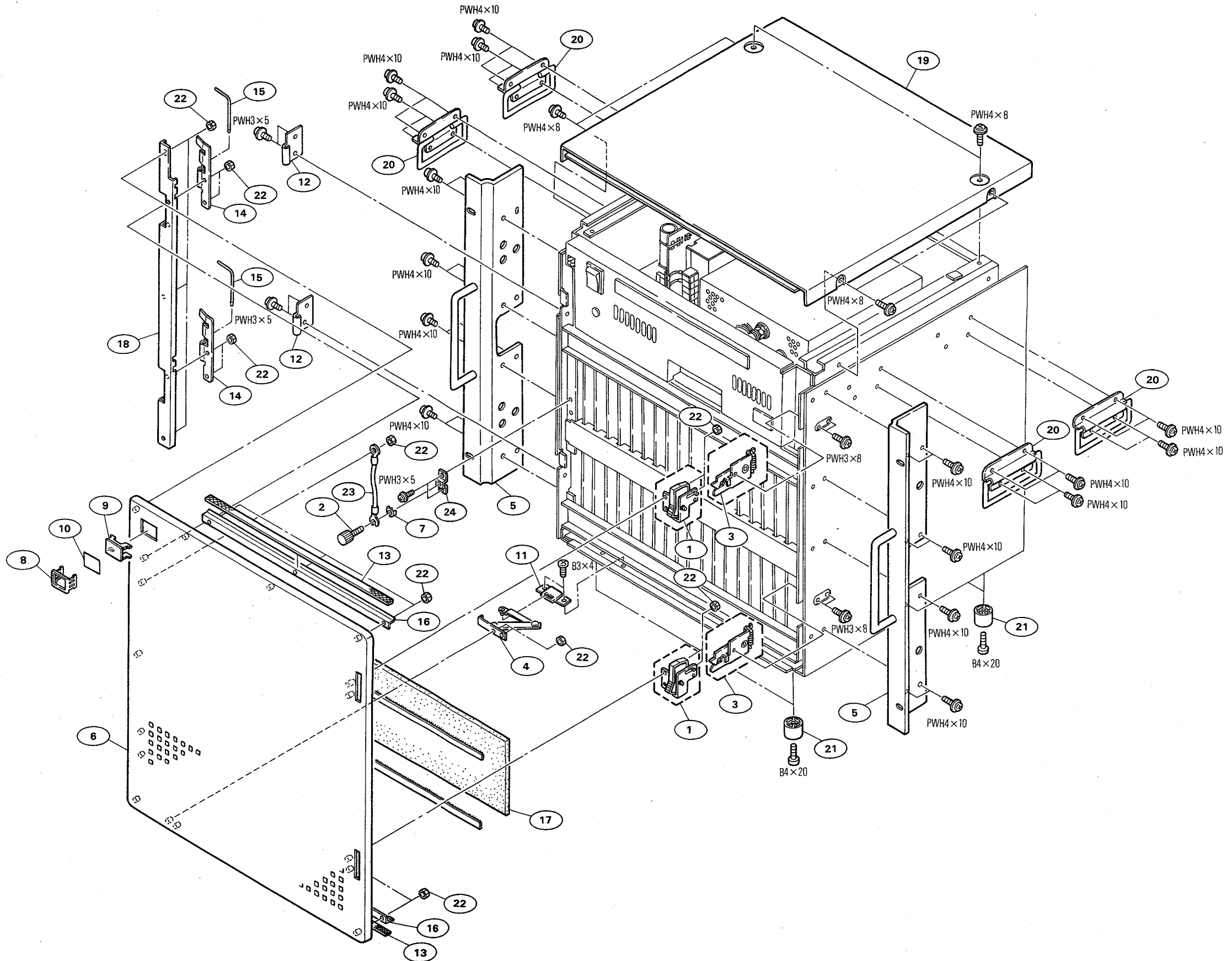
- (1) The shaded and  $\Delta$  marked components are critical to safety.  
Replace only with same components as specified.
- (2) Replacement Parts supplied from the Sony Parts Center will sometimes have a different shape from the original parts. This is due to improved parts and/or engineering changes or standardization of genuine parts.  
This manual's exploded views and electrical spare parts list indicate the part numbers of the standardized genuine parts at the present.  
Regarding engineering part changes by the engineering department, refer to Sony service bulletins and service manual supplements.
- (3) The parts marked with "s" in the SP column of the exploded views and electrical spare parts lists are normally stocked for replacement purposes. The parts marked with "o" in the SP column are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.
- (4) Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- (5) All capacitors are in micro farads unless otherwise specified.  
All inductors are in micro henries unless otherwise specified.  
All resistors are in ohms.

### 10-2. EXPLODED VIEW

- |                           |       |
|---------------------------|-------|
| 10-2-1. Chassis (1) ..... | P10-3 |
| 10-2-2. Chassis (2) ..... | P10-5 |
| 10-2-3. Power Unit .....  | P10-7 |
| 10-2-4. Rear Panel .....  | P10-9 |

10-2-1. Chassis (1)

| No. | Part No.     | SP Description             |
|-----|--------------|----------------------------|
| 1   | A-6279-484-A | o HANDLE ASSY, DOOR        |
| 2   | X-2068-004-0 | s TERMINAL ASSY            |
| 3   | X-2127-216-1 | o LOCK ASSY, DOOR          |
| 4   | X-3165-067-1 | o STOPPER ASSY             |
| 5   | X-3165-221-1 | o ANGLE ASSY (10U), RACK   |
| 6   | X-3165-447-1 | o PANEL ASSY, FRONT        |
| 7   | 2-068-008-00 | s WASHER                   |
| 8   | 2-139-192-01 | o FRAME, INDICATOR WINDOW  |
| 9   | 2-139-193-01 | o WINDOW, INDICATOR        |
| 10  | 2-249-353-00 | o COVER, LAMP              |
| 11  | 3-166-131-01 | o TABLE (H), STAY          |
| 12  | 3-166-133-01 | o HINGE (H)                |
| 13  | 3-166-134-01 | o LINE, SHILED             |
| 14  | 3-166-135-01 | o HINGE (F)                |
| 15  | 3-166-136-01 | o PIN, HINGE               |
| 16  | 3-166-157-01 | o BRACKET, SHIELD LINE     |
| 17  | 3-166-203-01 | o FILTER                   |
| 18  | 3-166-223-01 | o PLATE, SIDE, LEFT, PANEL |
| 19  | 3-166-229-01 | o PLATE, TOP               |
| 20  | 3-167-453-01 | o HANDLE                   |
| 21  | 3-642-656-01 | s FOOT                     |
| 22  | 4-334-513-00 | s NUT, NYLON               |





## 10-2-2. Chassis (2)

No. Part No. SP Description

101 A-6259-454-A o MOUNTED CIRCUIT BOARD, CPU-82  
 102 A-6259-455-A o MOUNTED CIRCUIT BOARD, ALU-11  
 103 A-6259-456-A o MOUNTED CIRCUIT BOARD, DPR-18  
 104 A-6259-457-A o MOUNTED CIRCUIT BOARD, DPR-17  
 105 A-6259-458-A o MOUNTED CIRCUIT BOARD, MEM-41

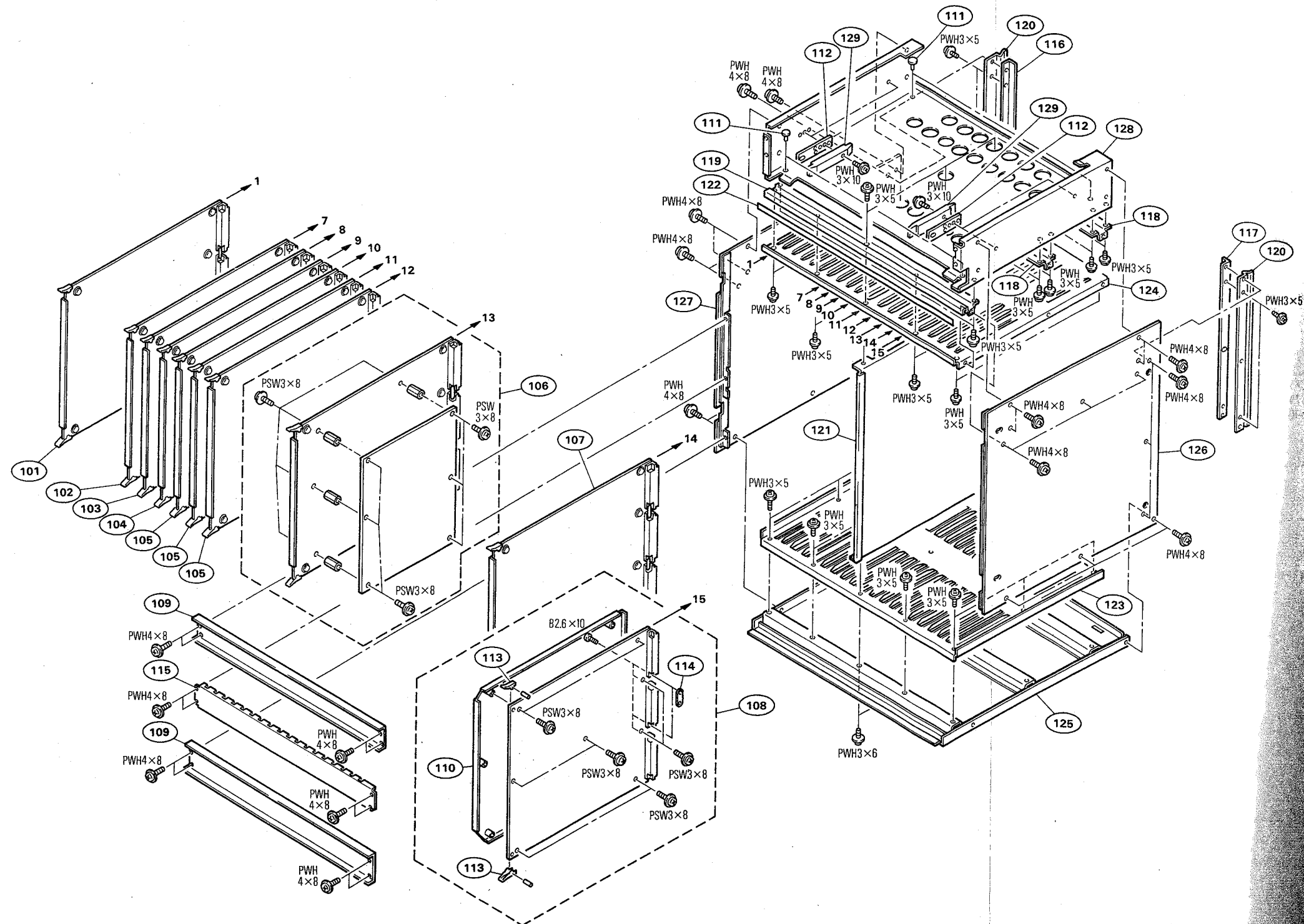
106 A-6259-459-A o MOUNTED CIRCUIT BOARD, DLP-9  
 107 A-6259-460-A o MOUNTED CIRCUIT BOARD, DPR-15  
 108 A-6259-461-A o MOUNTED CIRCUIT BOARD, DPR-16  
 109 X-3165-222-1 o RETAINER ASSY, PC BOARD  
 110 X-3165-223-1 o PLATE ASSY, SHIELD

111 2-249-250-00 s CLIP (SMALL), CANOE  
 112 3-166-132-01 o SPACER (G)  
 113 3-166-184-01 o LEVER, PC BOARD  
 114 3-166-191-01 o HOLDER, PC BOARD  
 115 3-166-193-01 o BRACKET (L), MOTHER BOARD

116 3-166-194-01 o BRACKET (R), MOTHER BOARD  
 117 3-166-195-01 o RETAINER, RAIL TABLE  
 118 3-166-196-02 o RETAINER, EJECTOR  
 119 3-166-200-01 o BRACKET, FCC  
 120 3-166-213-01 o REINFORCEMENT

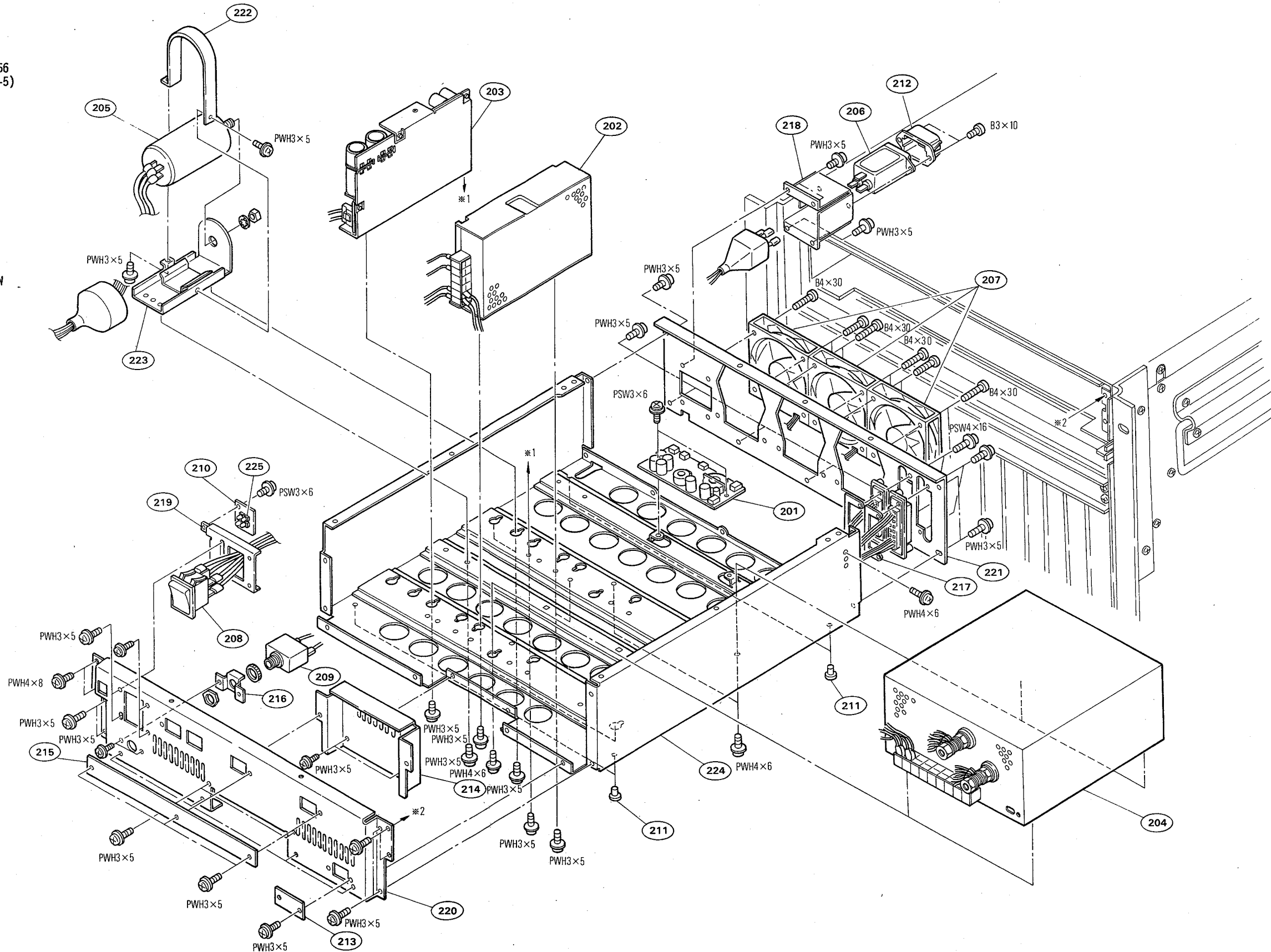
121 3-166-214-01 o SHEET, INDICATION  
 122 3-166-230-02 o TABLE, RAIL  
 123 3-166-230-12 o TABLE, RAIL  
 124 3-166-231-01 o PLATE, BOTTOM  
 125 3-166-232-01 o PLATE (R), SIDE

126 3-166-233-01 o PLATE (L), SIDE  
 127 3-167-575-11 o TABLE, SLIDE, POWER  
 128 3-724-333-01 o GUIDE (S), CASSETTE

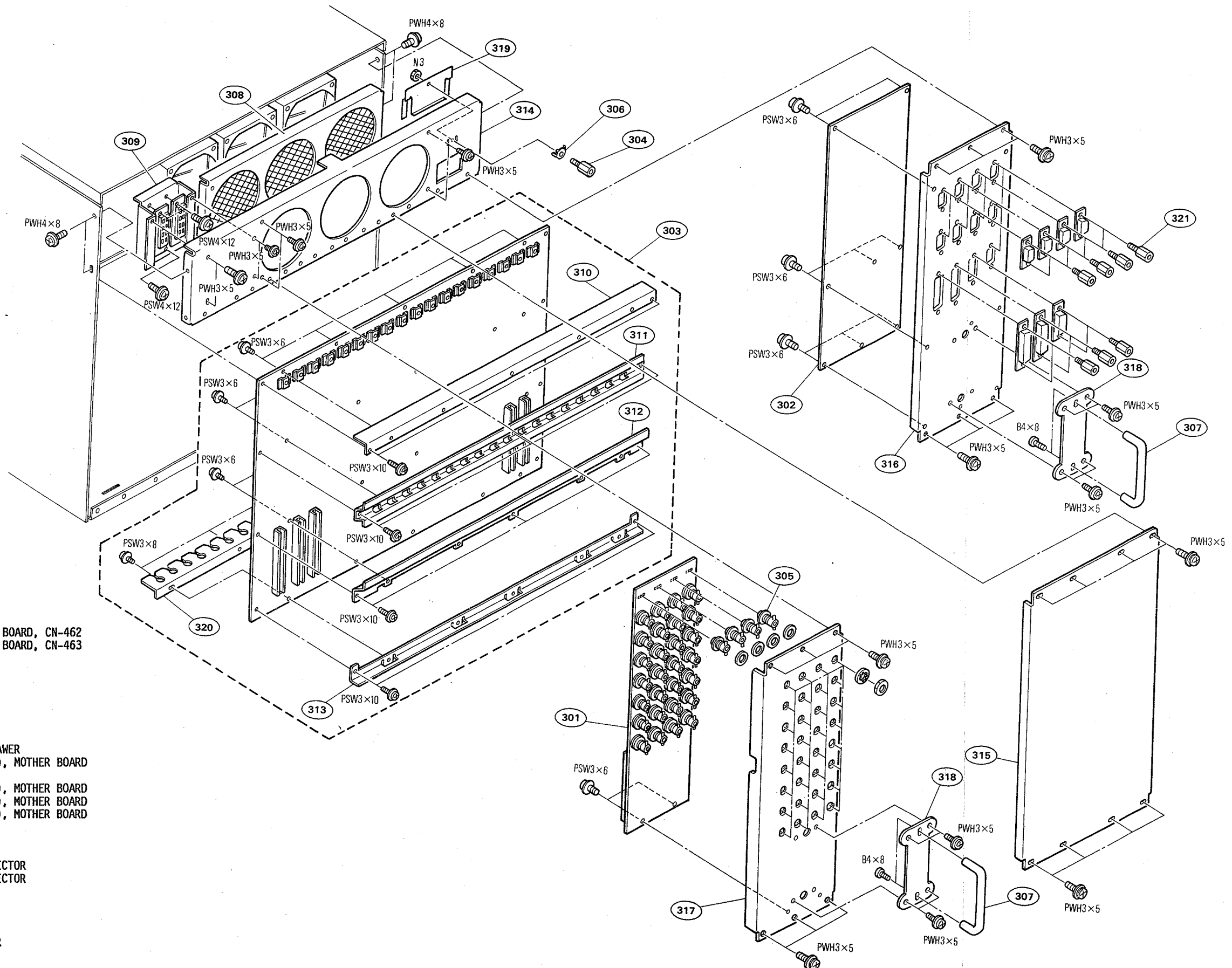


# 0-2-3. Power Unit

| No. | Part No.      | SP Description                   |
|-----|---------------|----------------------------------|
| 001 | △A-6263-090-A | o MOUNTED CIRCUIT BOARD, CN-456  |
| 002 | △1-413-477-12 | s REGULATOR, SWITCHING (EWS50-5) |
| 003 | △1-413-569-11 | s REGULATOR, SWITCHING           |
| 004 | △1-413-594-11 | s SWITCHING REGULATOR            |
| 005 | △1-424-136-11 | s FILTER, NOISE                  |
| 006 | △1-540-178-11 | s INLET, AC (GL-2100C-30)        |
| 007 | 1-541-329-31  | s FAN, DC (WITH ALARM)           |
| 008 | △1-572-345-11 | s SWITC, SEESAW (AC POWER)       |
| 009 | △1-576-036-11 | s BREAKER, CIRCUIT               |
| 010 | 1-631-489-11  | o PC BOARD, LE-76                |
| 011 | 2-249-250-00  | s CLIP (SMALL), CANOE            |
| 012 | 2-990-241-01  | o HOLDER (A), PLUG               |
| 013 | 3-166-137-01  | o COVER, ADJUSTMENT WINDOW       |
| 014 | 3-166-160-01  | o COVER, HANDLE                  |
| 015 | 3-166-188-02  | o COVER (2), ADJUSTMENT WINDOW   |
| 016 | 3-166-189-02  | o BRACKET, BREAKER               |
| 017 | 3-166-190-11  | s NUT, PLATE                     |
| 018 | 3-166-206-02  | o BRACKET, AC INLET              |
| 019 | 3-166-207-01  | o BRACKET, AC SW                 |
| 020 | 3-166-224-02  | o PANEL, FRONT, POWER            |
| 021 | 3-166-225-01  | o PANEL, REAR, POWER             |
| 022 | 3-167-572-01  | o BRACKET (2), FILTER            |
| 023 | 3-167-573-01  | o BRACKET (1), FILTER            |
| 024 | 3-167-574-01  | o CHASSIS, POWER                 |
| 025 | 3-674-390-00  | o HOLDER (B), LED                |



## 10-2-4. Rear Panel



| No. | Part No.     | SP Description                   |
|-----|--------------|----------------------------------|
| 301 | A-6259-452-A | o MOUNTED CIRCUIT BOARD, CN-462  |
| 302 | A-6259-453-A | o MOUNTED CIRCUIT BOARD, CN-463  |
| 303 | A-6279-734-A | o MB-305 ASSY                    |
| 304 | X-2068-004-1 | s TERMINAL ASSY                  |
| 305 | 1-580-356-11 | s CONNECTOR, BNC                 |
| 306 | 2-068-008-00 | s WASHER                         |
| 307 | 2-270-616-00 | o HANDLE                         |
| 308 | 3-166-197-01 | o VENTILATOR                     |
| 309 | 3-166-199-02 | o BRACKET, CN, DRAWER            |
| 310 | 3-166-208-02 | o REINFORCEMENT(1), MOTHER BOARD |
| 311 | 3-166-209-01 | o REINFORCEMENT(2), MOTHER BOARD |
| 312 | 3-166-210-02 | o REINFORCEMENT(3), MOTHER BOARD |
| 313 | 3-166-211-01 | o REINFORCEMENT(4), MOTHER BOARD |
| 314 | 3-166-212-01 | o PANEL, REAR                    |
| 315 | 3-166-378-02 | o PANEL, BLANK                   |
| 316 | 3-166-379-02 | o PANEL (1), CONNECTOR           |
| 317 | 3-166-380-02 | o PANEL (2), CONNECTOR           |
| 318 | 3-167-576-01 | o BRACKET, HANDLE                |
| 319 | 3-168-627-01 | s SPRING, FCC                    |
| 320 | 3-168-628-01 | o GUIDE, PCB                     |
| 321 | 3-673-910-21 | o SCREW, CONNECTOR               |

10-3. ELECTRICAL PARTS LIST

CAPACITOR, CERAMIC, STACKED

| Part No.     | SP Description             |
|--------------|----------------------------|
| 1-161-494-00 | s CAP, CERAMIC 0.22 25V    |
| 1-161-898-11 | s CAP, CERAMIC 0.47 50V    |
| 1-164-208-21 | s CAP, CERAMIC 0.1 99% 50V |

RESISTOR, METAL

| Part No.     | SP Description            |
|--------------|---------------------------|
| 1-215-398-00 | s RES, METAL 110 1% 1/6W  |
| 1-215-421-00 | s RES, METAL 1.0k 1% 1/6W |
| 1-215-429-00 | s RES, METAL 2.2k 1% 1/6W |
| 1-215-437-00 | s RES, METAL 4.7k 1% 1/6W |
| 1-215-438-00 | s RES, METAL 5.1k 1% 1/6W |
| 1-215-445-00 | s RES, METAL 10k 1% 1/6W  |

ALU-11 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-455-A | o MOUNTED CIRCUIT BOARD, ALU-11 |
| 3pcs                | 1-526-659-00 | s SOCKET, IC (DP) 28P           |
| 3pcs                | 1-526-816-21 | o SOCKET, IC (DP) 24P           |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD               |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10               |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8               |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V            |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| F1                  | 1-576-031-11 | s FUSE, MICRO                   |
| F2                  | 1-576-031-11 | s FUSE, MICRO                   |
| ICA1                | 8-759-906-78 | s IC 74F399PC                   |
| ICA2                | 8-759-906-78 | s IC 74F399PC                   |
| ICA3                | 8-759-906-78 | s IC 74F399PC                   |
| ICA5                | 8-759-706-53 | s IC TMS27C256-ALU11A5V1        |
| ICA6                | 8-759-706-54 | s IC TMS27C256-ALU11A6V1        |
| ICA8                | 8-759-706-55 | s IC TMS27C256-ALU11A8V1        |
| ICA9                | 8-759-904-87 | s IC 74F374PC                   |
| ICA10               | 8-759-904-87 | s IC 74F374PC                   |
| ICA11               | 8-759-906-76 | s IC 74F283PC                   |
| ICA12               | 8-759-904-87 | s IC 74F374PC                   |
| ICA13               | 8-759-906-78 | s IC 74F399PC                   |
| ICA14               | 8-759-906-78 | s IC 74F399PC                   |
| ICA15               | 8-759-906-78 | s IC 74F399PC                   |
| ICA16               | 8-759-906-78 | s IC 74F399PC                   |
| ICA17               | 8-759-903-92 | s IC SN74LS682N                 |
| ICA18               | 8-759-903-92 | s IC SN74LS682N                 |
| ICA19               | 8-759-903-92 | s IC SN74LS682N                 |
| ICA20               | 8-759-904-87 | s IC 74F374PC                   |
| ICA21               | 8-759-917-48 | s IC 74F64PC                    |
| ICA22               | 8-759-904-87 | s IC 74F374PC                   |
| ICA26               | 8-759-904-88 | s IC 74F534PC                   |
| ICA27               | 8-759-904-87 | s IC 74F374PC                   |
| ICA28               | 8-759-908-69 | s IC 74F350PC                   |
| ICA29               | 8-759-900-68 | s IC SN74ALS30AN                |
| ICA30               | 8-759-908-69 | s IC 74F350PC                   |
| ICB1                | 8-759-916-66 | s IC SN74HCT240N                |
| ICB2                | 8-759-916-96 | s IC SN74HC374N                 |
| ICB3                | 8-759-906-78 | s IC 74F399PC                   |
| ICB9                | 8-759-904-87 | s IC 74F374PC                   |
| ICB10               | 8-759-904-80 | s IC 74F04PC                    |
| ICB11               | 8-759-906-76 | s IC 74F283PC                   |
| ICB12               | 8-759-900-68 | s IC SN74ALS30AN                |
| ICB13               | 8-759-904-87 | s IC 74F374PC                   |
| ICB15               | 8-759-990-97 | s IC CXD8156Q                   |
| ICB17               | 8-759-917-89 | s IC 74F398PC                   |
| ICB18               | 8-759-906-78 | s IC 74F399PC                   |
| ICB19               | 8-759-906-78 | s IC 74F399PC                   |
| ICB20               | 8-759-904-87 | s IC 74F374PC                   |
| ICB21               | 8-759-918-33 | s IC CX20160                    |
| ICB22               | 8-759-904-87 | s IC 74F374PC                   |
| ICB24               | 8-759-990-97 | s IC CXD8156Q                   |
| ICB26               | 8-759-904-88 | s IC 74F534PC                   |
| ICB27               | 8-759-904-87 | s IC 74F374PC                   |

(ALU-11 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description   |
|---------------------|--------------|------------------|
| ICB28               | 8-759-908-69 | s IC 74F350PC    |
| ICB29               | 8-759-908-69 | s IC 74F350PC    |
| ICB30               | 8-759-906-76 | s IC 74F283PC    |
| ICC1                | 8-759-904-77 | s IC AM26LS32ACN |
| ICC2                | 8-759-906-78 | s IC 74F399PC    |
| ICC3                | 8-759-906-78 | s IC 74F399PC    |
| ICC4                | 8-759-906-78 | s IC 74F399PC    |
| ICC5                | 8-759-918-33 | s IC CX20160     |
| ICC6                | 8-759-918-33 | s IC CX20160     |
| ICC7                | 8-759-904-87 | s IC 74F374PC    |
| ICC8                | 8-759-904-87 | s IC 74F374PC    |
| ICC9                | 8-759-916-96 | s IC SN74HC374N  |
| ICC10               | 8-759-904-87 | s IC 74F374PC    |
| ICC11               | 8-759-904-87 | s IC 74F374PC    |
| ICC12               | 8-759-904-87 | s IC 74F374PC    |
| ICC13               | 8-759-938-44 | s IC SN74ALS688N |
| ICC14               | 8-759-904-87 | s IC 74F374PC    |
| ICC15               | 8-759-942-67 | s IC L29C520PC   |
| ICC16               | 8-759-942-67 | s IC L29C520PC   |
| ICC17               | 8-759-917-89 | s IC 74F398PC    |
| ICC18               | 8-759-906-78 | s IC 74F399PC    |
| ICC19               | 8-759-906-78 | s IC 74F399PC    |
| ICC20               | 8-759-904-87 | s IC 74F374PC    |
| ICC21               | 8-759-906-76 | s IC 74F283PC    |
| ICC22               | 8-759-906-76 | s IC 74F283PC    |
| ICC23               | 8-759-908-69 | s IC 74F350PC    |
| ICC24               | 8-759-908-69 | s IC 74F350PC    |
| ICC25               | 8-759-906-78 | s IC 74F399PC    |
| ICC26               | 8-759-906-78 | s IC 74F399PC    |
| ICC27               | 8-759-917-54 | s IC 74F148PC    |
| ICC28               | 8-759-908-69 | s IC 74F350PC    |
| ICC29               | 8-759-908-69 | s IC 74F350PC    |
| ICC30               | 8-759-906-76 | s IC 74F283PC    |
| ICD1                | 8-759-916-66 | s IC SN74HCT240N |
| ICD2                | 8-759-938-44 | s IC SN74ALS688N |
| ICD3                | 8-759-913-63 | s IC SN74ALS374N |
| ICD4                | 8-759-904-87 | s IC 74F374PC    |
| ICD5                | 8-759-918-33 | s IC CX20160     |
| ICD6                | 8-759-900-68 | s IC SN74ALS30AN |
| ICD7                | 8-759-915-41 | s IC 74F02PC     |
| ICD8                | 8-759-001-87 | s IC 74F20PC     |
| ICD9                | 8-759-915-93 | s IC 74F163APC   |
| ICD10               | 8-759-904-80 | s IC 74F04PC     |
| ICD11               | 8-759-916-14 | s IC SN74HC04N   |
| ICD12               | 8-759-906-78 | s IC 74F399PC    |
| ICD13               | 8-759-906-76 | s IC 74F283PC    |
| ICD14               | 8-759-904-87 | s IC 74F374PC    |
| ICD17               | 8-759-906-78 | s IC 74F399PC    |
| ICD18               | 8-759-906-78 | s IC 74F399PC    |
| ICD19               | 8-759-906-78 | s IC 74F399PC    |
| ICD20               | 8-759-942-67 | s IC L29C520PC   |
| ICD21               | 8-759-942-67 | s IC L29C520PC   |
| ICD22               | 8-759-904-80 | s IC 74F04PC     |
| ICD23               | 8-759-908-69 | s IC 74F350PC    |
| ICD24               | 8-759-908-69 | s IC 74F350PC    |
| ICD25               | 8-759-906-78 | s IC 74F399PC    |
| ICD26               | 8-759-906-78 | s IC 74F399PC    |
| ICD27               | 8-759-917-54 | s IC 74F148PC    |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (ALU-11 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICD28               | 8-759-908-69 | s IC 74F350PC             |
| ICD29               | 8-759-908-69 | s IC 74F350PC             |
| ICD30               | 8-759-904-87 | s IC 74F374PC             |
| ICE1                | 8-759-902-44 | s IC SN74LS244N           |
| ICE2                | 8-759-921-69 | s IC SN74HC688N           |
| ICE3                | 8-759-913-63 | s IC SN74ALS374N          |
| ICE4                | 8-759-904-80 | s IC 74F04PC              |
| ICE5                | 8-759-904-80 | s IC 74F04PC              |
| ICE6                | 8-759-904-80 | s IC 74F04PC              |
| ICE7                | 8-759-904-82 | s IC 74F10PC              |
| ICE8                | 8-759-917-48 | s IC 74F64PC              |
| ICE9                | 8-759-917-58 | s IC 74F164PC             |
| ICE10               | 8-759-917-58 | s IC 74F164PC             |
| ICE11               | 8-759-904-81 | s IC 74F08PC              |
| ICE12               | 8-759-906-78 | s IC 74F399PC             |
| ICE13               | 8-759-906-76 | s IC 74F283PC             |
| ICE14               | 8-759-904-87 | s IC 74F374PC             |
| ICE15               | 8-759-942-67 | s IC L29C520PC            |
| ICE16               | 8-759-942-67 | s IC L29C520PC            |
| ICE17               | 8-759-906-78 | s IC 74F399PC             |
| ICE18               | 8-759-906-78 | s IC 74F399PC             |
| ICE19               | 8-759-906-78 | s IC 74F399PC             |
| ICE20               | 8-759-942-67 | s IC L29C520PC            |
| ICE21               | 8-759-942-67 | s IC L29C520PC            |
| ICE22               | 8-759-906-66 | s IC 74F86PC              |
| ICE23               | 8-759-908-69 | s IC 74F350PC             |
| ICE24               | 8-759-908-69 | s IC 74F350PC             |
| ICE25               | 8-759-908-69 | s IC 74F350PC             |
| ICE26               | 8-759-908-69 | s IC 74F350PC             |
| ICE27               | 8-759-916-02 | s IC SN74ALS158N          |
| ICE28               | 8-759-906-76 | s IC 74F283PC             |
| ICE29               | 8-759-904-87 | s IC 74F374PC             |
| ICE30               | 8-759-906-78 | s IC 74F399PC             |
| ICF1                | 8-759-902-44 | s IC SN74LS244N           |
| ICF2                | 8-759-921-69 | s IC SN74HC688N           |
| ICF3                | 8-759-918-33 | s IC CX20160              |
| ICF4                | 8-759-917-43 | s IC SN74HC138N           |
| ICF5                | 8-759-906-66 | s IC 74F86PC              |
| ICF6                | 8-759-918-33 | s IC CX20160              |
| ICF7                | 8-759-910-01 | s IC CX23024              |
| ICF8                | 8-759-906-66 | s IC 74F86PC              |
| ICF9                | 8-759-915-93 | s IC 74F163APC            |
| ICF10               | 8-759-915-93 | s IC 74F163APC            |
| ICF11               | 8-759-904-87 | s IC 74F374PC             |
| ICF12               | 8-759-904-79 | s IC 74F00PC              |
| ICF13               | 8-759-904-80 | s IC 74F04PC              |
| ICF14               | 8-759-917-48 | s IC 74F64PC              |
| ICF15               | 8-759-942-67 | s IC L29C520PC            |
| ICF16               | 8-759-942-67 | s IC L29C520PC            |
| ICF17               | 8-759-904-82 | s IC 74F10PC              |
| ICF18               | 8-759-904-87 | s IC 74F374PC             |
| ICF19               | 8-759-705-91 | s IC WS57C291B-ALU11F19V1 |
| ICF20               | 8-759-942-67 | s IC L29C520PC            |
| ICF21               | 8-759-942-67 | s IC L29C520PC            |
| ICF22               | 8-759-904-87 | s IC 74F374PC             |
| ICF23               | 8-759-904-87 | s IC 74F374PC             |
| ICF24               | 8-759-938-44 | s IC SN74ALS688N          |
| ICF25               | 8-759-706-56 | s IC TMS27C256-ALU11F25V1 |

## (ALU-11 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICF27               | 8-759-706-57 | s IC TMS27C256-ALU11F27V1 |
| ICF28               | 8-759-705-90 | s IC WS57C291B-ALU11F28V1 |
| ICF29               | 8-759-918-33 | s IC CX20160              |
| ICF30               | 8-759-906-78 | s IC 74F399PC             |
| ICG1                | 8-759-913-63 | s IC SN74ALS374N          |
| ICG2                | 8-759-902-44 | s IC SN74LS244N           |
| ICG3                | 8-759-918-33 | s IC CX20160              |
| ICG4                | 8-759-906-78 | s IC 74F399PC             |
| ICG5                | 8-759-906-78 | s IC 74F399PC             |
| ICG7                | 8-759-990-97 | s IC CXD8156Q             |
| ICG10               | 8-759-990-97 | s IC CXD8156Q             |
| ICG12               | 8-759-990-97 | s IC CXD8156Q             |
| ICG14               | 8-759-990-97 | s IC CXD8156Q             |
| ICG16               | 8-759-904-80 | s IC 74F04PC              |
| ICG17               | 8-759-908-69 | s IC 74F350PC             |
| ICG18               | 8-759-908-69 | s IC 74F350PC             |
| ICG22               | 8-759-906-78 | s IC 74F399PC             |
| ICG23               | 8-759-906-76 | s IC 74F283PC             |
| ICG24               | 8-759-904-87 | s IC 74F374PC             |
| ICG29               | 8-759-918-33 | s IC CX20160              |
| ICG30               | 8-759-904-87 | s IC 74F374PC             |
| ICH1                | 8-759-913-63 | s IC SN74ALS374N          |
| ICH2                | 8-759-906-78 | s IC 74F399PC             |
| ICH3                | 8-759-906-78 | s IC 74F399PC             |
| ICH4                | 8-759-906-78 | s IC 74F399PC             |
| ICH5                | 8-759-906-78 | s IC 74F399PC             |
| ICH16               | 8-759-904-81 | s IC 74F08PC              |
| ICH17               | 8-759-908-69 | s IC 74F350PC             |
| ICH18               | 8-759-908-69 | s IC 74F350PC             |
| ICH20               | 8-759-990-97 | s IC CXD8156Q             |
| ICH22               | 8-759-906-78 | s IC 74F399PC             |
| ICH23               | 8-759-906-76 | s IC 74F283PC             |
| ICH24               | 8-759-916-97 | s IC SN74HCT374N          |
| ICH25               | 8-759-916-97 | s IC SN74HCT374N          |
| ICH26               | 8-759-916-97 | s IC SN74HCT374N          |
| ICH27               | 8-759-904-87 | s IC 74F374PC             |
| ICH28               | 8-759-904-87 | s IC 74F374PC             |
| ICH29               | 8-759-938-44 | s IC SN74ALS688N          |
| ICH30               | 8-759-904-87 | s IC 74F374PC             |
| ICJ1                | 8-759-918-33 | s IC CX20160              |
| ICJ2                | 8-759-906-78 | s IC 74F399PC             |
| ICJ3                | 8-759-906-78 | s IC 74F399PC             |
| ICJ4                | 8-759-706-30 | s IC AT27HC642-ALU11J4V1  |
| ICJ5                | 8-759-904-82 | s IC 74F10PC              |
| ICJ6                | 8-759-910-01 | s IC CX23024              |
| ICJ7                | 8-759-910-01 | s IC CX23024              |
| ICJ8                | 8-759-910-01 | s IC CX23024              |
| ICJ9                | 8-759-910-01 | s IC CX23024              |
| ICJ10               | 8-759-910-01 | s IC CX23024              |
| ICJ11               | 8-759-910-01 | s IC CX23024              |
| ICJ12               | 8-759-910-01 | s IC CX23024              |
| ICJ13               | 8-759-910-01 | s IC CX23024              |
| ICJ14               | 8-759-904-87 | s IC 74F374PC             |
| ICJ15               | 8-759-904-87 | s IC 74F374PC             |
| ICJ16               | 8-759-904-87 | s IC 74F374PC             |
| ICJ17               | 8-759-908-69 | s IC 74F350PC             |
| ICJ18               | 8-759-908-69 | s IC 74F350PC             |
| ICJ22               | 8-759-906-78 | s IC 74F399PC             |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (ALU-11 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description           |
|---------------------|--------------|--------------------------|
| ICJ23               | 8-759-906-78 | s IC 74F399PC            |
| ICJ24               | 8-759-904-80 | s IC 74F04PC             |
| ICJ25               | 8-759-500-72 | s IC SN74ALS157AN        |
| ICJ26               | 8-759-500-72 | s IC SN74ALS157AN        |
| ICJ27               | 8-759-904-87 | s IC 74F374PC            |
| ICJ28               | 8-759-918-33 | s IC CX20160             |
| ICJ29               | 8-759-918-33 | s IC CX20160             |
| ICJ30               | 8-759-918-33 | s IC CX20160             |
| ICK2                | 8-759-918-33 | s IC CX20160             |
| ICK3                | 8-759-706-29 | s IC AT27HC642-ALU11K3V1 |
| ICK4                | 8-759-904-82 | s IC 74F10PC             |
| ICK5                | 8-759-904-83 | s IC 74F32PC             |
| ICK6                | 8-759-910-01 | s IC CX23024             |
| ICK7                | 8-759-910-01 | s IC CX23024             |
| ICK8                | 8-759-910-01 | s IC CX23024             |
| ICK9                | 8-759-910-01 | s IC CX23024             |
| ICK10               | 8-759-910-01 | s IC CX23024             |
| ICK11               | 8-759-910-01 | s IC CX23024             |
| ICK12               | 8-759-910-01 | s IC CX23024             |
| ICK13               | 8-759-910-01 | s IC CX23024             |
| ICK14               | 8-759-904-87 | s IC 74F374PC            |
| ICK15               | 8-759-942-67 | s IC L29C520PC           |
| ICK16               | 8-759-942-67 | s IC L29C520PC           |
| ICK17               | 8-759-908-69 | s IC 74F350PC            |
| ICK18               | 8-759-908-69 | s IC 74F350PC            |
| ICK19               | 8-759-918-33 | s IC CX20160             |
| ICK20               | 8-759-906-78 | s IC 74F399PC            |
| ICK21               | 8-759-906-78 | s IC 74F399PC            |
| ICK22               | 8-759-906-78 | s IC 74F399PC            |
| ICK23               | 8-759-906-78 | s IC 74F399PC            |
| ICK24               | 8-759-500-72 | s IC SN74ALS157AN        |
| ICK25               | 8-759-500-72 | s IC SN74ALS157AN        |
| ICK26               | 8-759-500-72 | s IC SN74ALS157AN        |
| ICK27               | 8-759-918-33 | s IC CX20160             |
| ICK28               | 8-759-918-33 | s IC CX20160             |
| ICK29               | 8-759-500-72 | s IC SN74ALS157AN        |
| ICK30               | 8-759-918-33 | s IC CX20160             |

## CN-456 BOARD

| Ref. No.<br>or Q'ty | Part No.      | SP Description                    |
|---------------------|---------------|-----------------------------------|
| 1pc                 | ▲A-6263-090-A | o MOUNTED CIRCUIT BOARD, CN-456   |
| 1pc                 | 7-682-648-09  | s SCREW +PS 3X8                   |
| 1pc                 | 7-684-023-04  | s N 3, TYPE 2                     |
| C1                  | 1-124-518-11  | s ELECT 470uF 20% 6.3V            |
| C2                  | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C3                  | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C4                  | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C5                  | 1-124-518-11  | s ELECT 470uF 20% 6.3V            |
| C6                  | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C7                  | 1-131-347-00  | s TANTALUM 1uF 10% 35V            |
| C8                  | 1-124-522-11  | s ELECT 270uF 20% 16V             |
| C9                  | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C10                 | 1-124-522-11  | s ELECT 270uF 20% 16V             |
| C11                 | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C12                 | 1-124-522-11  | s ELECT 270uF 20% 16V             |
| C13                 | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C14                 | 1-124-522-11  | s ELECT 270uF 20% 16V             |
| C15                 | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C16                 | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| C17                 | 1-161-485-00  | s CERAMIC 0.1uF 50V               |
| CN1                 | 1-560-366-00  | o CONNECTOR POST HEADER, ILG (4P) |
| CN2                 | 1-506-482-21  | o PIN, CONNECTOR 3P               |
| CN3                 | 1-506-482-21  | o PIN, CONNECTOR 3P               |
| CN4                 | 1-506-482-21  | o PIN, CONNECTOR 3P               |
| CN5                 | 1-560-366-00  | o CONNECTOR POST HEADER, ILG (4P) |
| D1                  | 8-719-500-15  | s DIODE S3S4M                     |
| F1                  | ▲1-576-031-11 | s FUSE, MICRO                     |
| FB1                 | 1-535-178-00  | s BEAD, FERRITE                   |
| FB2                 | 1-535-178-00  | s BEAD, FERRITE                   |
| IC1                 | 8-759-505-30  | s IC LT1171CT                     |
| L1                  | 1-424-450-11  | s COIL, CHOKE 2.0MMH              |
| L2                  | 1-424-449-11  | s COIL, CHOKE 110MMH              |
| R1                  | 1-249-417-11  | s CARBON 1K 5% 1/4W               |
| R2                  | 1-249-429-11  | s CARBON 10K 5% 1/4W              |
| R3                  | 1-249-418-11  | s CARBON 1.2K 5% 1/4W             |
| R4                  | 1-249-422-11  | s CARBON 2.7K 5% 1/4W             |
| R5                  | 1-249-422-11  | s CARBON 2.7K 5% 1/4W             |
| R6                  | 1-249-422-11  | s CARBON 2.7K 5% 1/4W             |
| R7                  | 1-249-417-11  | s CARBON 1K 5% 1/4W               |
| TH1                 | 1-809-179-11  | s THERMISTOR 102AT-2              |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

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CN-462 BOARD  
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| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-452-A | o MOUNTED CIRCUIT BOARD, CN-462 |
| 1pc                 | 2-270-616-00 | o HANDLE                        |
| 1pc                 | 3-166-380-02 | o PANEL (2), CONNECTOR          |
| 1pc                 | 3-167-576-01 | o BRACKET, HANDLE               |
| 6pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 6pcs                | 7-628-254-20 | s SCREW +PS 2.6X8               |
| 1pc                 | 7-682-561-04 | s SCREW +B 4X8                  |
| 2pcs                | 7-682-903-01 | s SCREW +PWH 3X5                |
| 2pcs                | 7-682-947-01 | s SCREW +PSW 3X6                |
| CN1                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE    |
| CN2                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE    |
| CN3                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE    |
| CN4                 | 1-580-356-11 | s CONNECTOR, BNC                |
| CN5                 | 1-580-356-11 | s CONNECTOR, BNC                |
| CN6                 | 1-580-356-11 | s CONNECTOR, BNC                |
| CN7                 | 1-580-356-11 | s CONNECTOR, BNC                |
| CN8                 | 1-580-356-11 | s CONNECTOR, BNC                |
| CN9                 | 1-580-356-11 | s CONNECTOR, BNC                |
| CN10                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN11                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN12                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN13                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN14                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN15                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN16                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN17                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN18                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN19                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN20                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN21                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN22                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN23                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN24                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN25                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN26                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN27                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN28                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN29                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN30                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN31                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN32                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN33                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN34                | 1-580-356-11 | s CONNECTOR, BNC                |
| CN35                | 1-580-356-11 | s CONNECTOR, BNC                |
| COP1                | 1-563-859-11 | s PLUG, SHORTING                |
| COP2                | 1-563-859-11 | s PLUG, SHORTING                |
| COP3                | 1-563-859-11 | s PLUG, SHORTING                |
| COP4                | 1-563-859-11 | s PLUG, SHORTING                |
| COP5                | 1-563-859-11 | s PLUG, SHORTING                |
| COP6                | 1-563-859-11 | s PLUG, SHORTING                |
| COP7                | 1-563-859-11 | s PLUG, SHORTING                |
| COP8                | 1-563-859-11 | s PLUG, SHORTING                |
| COR1                | 1-566-388-11 | o CONNECTOR, 8P, MALE           |
| COR2                | 1-566-388-11 | o CONNECTOR, 8P, MALE           |
| COR3                | 1-566-388-11 | o CONNECTOR, 8P, MALE           |
| COR4                | 1-566-388-11 | o CONNECTOR, 8P, MALE           |

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CN-463 BOARD  
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| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-453-A | o MOUNTED CIRCUIT BOARD, CN-463 |
| 1pc                 | 2-270-616-00 | o HANDLE                        |
| 1pc                 | 3-166-379-02 | o PANEL (1), CONNECTOR          |
| 1pc                 | 3-167-576-01 | o BRACKET, HANDLE               |
| 24pcs               | 3-673-910-21 | o SCREW, CONNECTOR              |
| 4pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 4pcs                | 7-628-254-20 | s SCREW +PS 2.6X8               |
| 2pcs                | 7-682-561-04 | s SCREW +B 4X8                  |
| 4pcs                | 7-682-903-01 | s SCREW +PWH 3X5                |
| 8pcs                | 7-682-947-01 | s SCREW +PSW 3X6                |
| CN2                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE    |
| CN3                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE    |
| CN4                 | 1-563-891-21 | s SOCKET, D-SUB CONNECTOR 25P   |
| CN5                 | 1-563-891-21 | s SOCKET, D-SUB CONNECTOR 25P   |
| CN6                 | 1-563-826-11 | s SOCKET, D-SUB CONNECTOR 15P   |
| CN7                 | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN8                 | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN9                 | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN10                | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN11                | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN12                | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN13                | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN14                | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |
| CN15                | 1-563-890-21 | s CONNECTOR, D-SUB 9P, FEMALE   |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".



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CPU-82 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description                     |
|---------------------|--------------|------------------------------------|
| 1pc                 | A-6259-454-A | o MOUNTED CIRCUIT BOARD, CPU-82    |
| 3pcs                | 1-526-656-00 | s SOCKET, IC (DP) 20P              |
| 1pc                 | 1-526-659-00 | s SOCKET, IC (DP) 28P              |
| 2pcs                | 1-526-660-21 | s SOCKET, IC (DP) 32P              |
| 1pc                 | 1-526-662-21 | s SOCKET, IC (DP) 40P              |
| 1pc                 | 1-540-084-11 | s SOCKET, IC (PGA TYPE)            |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD                  |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10                  |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                    |
| 2pcs                | 7-626-320-11 | o PIN, SPRING 3X8                  |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                   |
| BT1                 | 1-528-202-11 | s BATTERY, STORAGE, NICKEL CADMIUM |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V               |
| C2                  | 1-124-589-11 | s ELECT 47uF 20% 16V               |
| C3                  | 1-126-162-11 | s ELECT 3.3uF 20% 50V              |
| C5                  | 1-126-162-11 | s ELECT 3.3uF 20% 50V              |
| C7                  | 1-126-162-11 | s ELECT 3.3uF 20% 50V              |
| C9                  | 1-126-162-11 | s ELECT 3.3uF 20% 50V              |
| C11                 | 1-162-215-31 | s CERAMIC 47PF 5% 50V              |
| C12                 | 1-126-162-11 | s ELECT 3.3uF 20% 50V              |
| C13                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C14                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C15                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C16                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C17                 | 1-126-157-11 | s ELECT 10uF 20% 16V               |
| C18                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C19                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C20                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C21                 | 1-162-195-31 | s CERAMIC 4.7PF 10% 50V            |
| C22                 | 1-162-290-31 | s CERAMIC 470PF 10% 50V            |
| C23                 | 1-162-290-31 | s CERAMIC 470PF 10% 50V            |
| C24                 | 1-162-290-31 | s CERAMIC 470PF 10% 50V            |
| C25                 | 1-162-290-31 | s CERAMIC 470PF 10% 50V            |
| C26                 | 1-131-375-00 | s TANTALUM 4.7uF 10% 10V           |
| C27                 | 1-126-157-11 | s ELECT 10uF 20% 16V               |
| C28                 | 1-126-157-11 | s ELECT 10uF 20% 16V               |
| C29                 | 1-131-363-00 | s TANTALUM 4.7uF 10% 20V           |
| C30                 | 1-126-157-11 | s ELECT 10uF 20% 16V               |
| C129                | 1-162-215-31 | s CERAMIC 47PF 5% 50V              |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE         |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE         |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE         |
| COP1                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP2                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP3                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP4                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP5                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP6                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP7                | 1-563-859-11 | s PLUG, SHORTING                   |
| COP81               | 1-563-859-11 | s PLUG, SHORTING                   |
| COP82               | 1-563-859-11 | s PLUG, SHORTING                   |
| COP83               | 1-563-859-11 | s PLUG, SHORTING                   |
| COP84               | 1-563-859-11 | s PLUG, SHORTING                   |
| COP85               | 1-563-859-11 | s PLUG, SHORTING                   |
| COP86               | 1-563-859-11 | s PLUG, SHORTING                   |
| COR1                | 1-566-388-11 | s CONNECTOR, 8P, MALE              |

(CPU-82 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| COR2                | 1-566-388-11 | s CONNECTOR, 8P, MALE     |
| COR3                | 1-566-388-11 | s CONNECTOR, 8P, MALE     |
| COR4                | 1-566-388-11 | s CONNECTOR, 8P, MALE     |
| COR5                | 1-566-388-11 | s CONNECTOR, 8P, MALE     |
| COR6                | 1-566-388-11 | s CONNECTOR, 8P, MALE     |
| COR7                | 1-566-388-11 | s CONNECTOR, 8P, MALE     |
| COR8                | 1-566-391-11 | o PIN, CONNECTOR 12P      |
| COR9                | 1-566-391-11 | o PIN, CONNECTOR 12P      |
| D1                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D2                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D3                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D4                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D5                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D6                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D7                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D8                  | 8-719-950-77 | s DIODE SLR-320VC3        |
| D9                  | 8-719-911-19 | s DIODE 1SS119            |
| D10                 | 8-719-911-19 | s DIODE 1SS119            |
| D11                 | 8-719-911-19 | s DIODE 1SS119            |
| D12                 | 8-719-911-19 | s DIODE 1SS119            |
| D13                 | 8-719-911-19 | s DIODE 1SS119            |
| D14                 | 8-719-911-19 | s DIODE 1SS119            |
| D15                 | 8-719-911-19 | s DIODE 1SS119            |
| D16                 | 8-719-911-19 | s DIODE 1SS119            |
| D17                 | 8-719-911-19 | s DIODE 1SS119            |
| D18                 | 8-719-911-19 | s DIODE 1SS119            |
| D19                 | 8-719-911-19 | s DIODE 1SS119            |
| D20                 | 8-719-911-19 | s DIODE 1SS119            |
| D21                 | 8-719-911-19 | s DIODE 1SS119            |
| F1                  | 1-576-031-11 | s FUSE, MICRO             |
| ICA1                | 8-759-904-77 | s IC AM26LS32ACN          |
| ICA2                | 8-759-916-20 | s IC SN74HC14N            |
| ICA3                | 8-759-978-92 | s IC 74AC32PC             |
| ICA4                | 8-759-719-04 | s IC GAL16V8A-CPU82A4V1   |
| ICA5                | 8-759-980-05 | s IC 74AC08PC             |
| ICA6                | 8-759-719-10 | s IC GAL16V8A-CPU82A6V1   |
| ICA7                | 8-759-987-30 | s IC 74ACT373PC           |
| ICA8                | 8-759-987-30 | s IC 74ACT373PC           |
| ICA9                | 8-759-987-30 | s IC 74ACT373PC           |
| ICA10               | 8-759-719-13 | s IC GAL16V8A-CPU82A10V1  |
| ICA11               | 8-759-719-12 | s IC GAL16V8A-CPU82A11V1  |
| ICA12               | 8-759-987-30 | s IC 74ACT373PC           |
| ICA13               | 8-759-705-69 | s IC WS27C010L-CPU82A13V1 |
| ICA15               | 8-759-705-68 | s IC WS27C010L-CPU82A15V1 |
| ICA17               | 8-752-335-16 | s IC CXK581000P-10L       |
| ICA19               | 8-752-335-16 | s IC CXK581000P-10L       |
| ICA20               | 8-752-335-16 | s IC CXK581000P-10L       |
| ICB1                | 8-759-926-40 | s IC SN74LS640N           |
| ICB2                | 8-759-981-01 | s IC 74ACT245PC           |
| ICB4                | 8-759-970-04 | s IC MB8421-90LP          |
| ICB8                | 8-759-987-01 | s IC A80386DX-16          |
| ICB11               | 8-759-978-90 | s IC 74AC02PC             |
| ICB12               | 8-759-978-92 | s IC 74AC32PC             |
| ICB13               | 8-759-705-71 | s IC WS27C010L-CPU82B13V1 |
| ICB15               | 8-759-705-70 | s IC WS27C010L-CPU82B15V1 |
| ICB17               | 8-752-335-16 | s IC CXK581000P-10L       |
| ICB19               | 8-752-335-16 | s IC CXK581000P-10L       |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".



## (CPU-82 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description           |
|---------------------|--------------|--------------------------|
| ICB20               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICC1                | 8-759-926-40 | s IC SN74LS640N          |
| ICC2                | 8-759-981-01 | s IC 74ACT245PC          |
| ICC3                | 8-759-916-65 | s IC SN74HC240N          |
| ICC11               | 8-759-719-11 | s IC GAL16V8A-CPU82C11V1 |
| ICC12               | 8-759-987-30 | s IC 74ACT373PC          |
| ICD1                | 8-759-987-31 | s IC 74ACT244PC          |
| ICD2                | 8-759-987-31 | s IC 74ACT244PC          |
| ICD3                | 8-759-978-92 | s IC 74AC32PC            |
| ICD4                | 8-759-506-25 | s IC MB8431-90LP         |
| ICD7                | 8-759-987-02 | s IC A80387DX-16         |
| ICD10               | 8-759-719-09 | s IC GAL16V8A-CPU82D10V1 |
| ICD11               | 8-759-719-08 | s IC GAL16V8A-CPU82D11V1 |
| ICD12               | 8-759-719-07 | s IC GAL16V8A-CPU82D12V1 |
| ICD13               | 8-759-980-06 | s IC 74AC74PC            |
| ICD15               | 8-759-748-33 | s IC HN58C65P-25         |
| ICD17               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICD19               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICD20               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICE1                | 8-759-987-31 | s IC 74ACT244PC          |
| ICE2                | 8-759-987-31 | s IC 74ACT244PC          |
| ICE3                | 8-759-987-31 | s IC 74ACT244PC          |
| ICE11               | 8-759-242-59 | s IC TC74ACT04P          |
| ICE12               | 8-759-994-71 | s IC 74AC109PC           |
| ICE13               | 8-759-717-86 | s IC 74F379PC            |
| ICE14               | 8-759-233-65 | s IC TC74HCT04AP         |
| ICE17               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICE19               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICE20               | 8-752-335-16 | s IC CXK581000P-10L      |
| ICF1                | 8-759-904-77 | s IC AM26LS32ACN         |
| ICF2                | 8-759-926-30 | s IC AM26LS30PC          |
| ICF5                | 8-759-149-06 | s IC UPD71054C-10        |
| ICF6                | 8-752-330-77 | s IC CXK58257P-10LL      |
| ICF8                | 8-759-705-66 | s IC TMS27C512-CPU82F8V1 |
| ICF9                | 8-759-994-85 | s IC 74AC245PC           |
| ICF10               | 8-759-981-03 | s IC 74AC373PC           |
| ICF11               | 8-752-800-48 | s IC CXQ70116P-8         |
| ICF13               | 8-759-107-56 | s IC CXQ71011P           |
| ICF14               | 8-759-978-92 | s IC 74AC32PC            |
| ICF15               | 8-759-981-01 | s IC 74ACT245PC          |
| ICG2                | 8-759-926-30 | s IC AM26LS30PC          |
| ICG3                | 8-759-113-74 | s IC UPD72001C           |
| ICG5                | 8-759-105-76 | s IC UPD71059C           |
| ICG6                | 8-752-330-77 | s IC CXK58257P-10LL      |
| ICG8                | 8-759-705-67 | s IC TMS27C512-CPU82G8V1 |
| ICG9                | 8-759-994-85 | s IC 74AC245PC           |
| ICG10               | 8-759-981-03 | s IC 74AC373PC           |
| ICG13               | 8-759-978-92 | s IC 74AC32PC            |
| ICG14               | 8-759-105-76 | s IC UPD71059C           |
| ICG15               | 8-759-916-65 | s IC SN74HC240N          |
| ICG16               | 8-759-916-79 | s IC SN74HC273N          |
| ICG17               | 8-759-916-65 | s IC SN74HC240N          |
| ICG20               | 8-759-001-00 | s IC MC74HC132N          |
| ICG21               | 8-759-505-28 | s IC MAX691CPE           |
| ICH1                | 8-759-916-20 | s IC SN74HC14N           |
| ICH2                | 8-759-938-75 | s IC MAX232CPE           |
| ICH3                | 8-759-113-74 | s IC UPD72001C           |

## (CPU-82 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description           |
|---------------------|--------------|--------------------------|
| ICH5                | 8-759-917-43 | s IC SN74HC138N          |
| ICH6                | 8-759-916-14 | s IC SN74HC04N           |
| ICH7                | 8-759-917-37 | s IC SN74HC4024N         |
| ICH9                | 8-759-505-28 | s IC MAX691CPE           |
| ICH10               | 8-759-981-03 | s IC 74AC373PC           |
| ICH11               | 8-759-719-06 | s IC GAL16V8A-CPU82H11V1 |
| ICH13               | 8-759-719-05 | s IC GAL16V8A-CPU82H13V1 |
| ICH14               | 8-759-149-04 | s IC UPD71051C-10        |
| ICH15               | 8-759-206-41 | s IC TD62083AP           |
| ICH16               | 8-759-916-79 | s IC SN74HC273N          |
| ICH17               | 8-759-916-65 | s IC SN74HC240N          |
| Q1                  | 8-729-195-23 | s TRANSISTOR 2SA952      |
| R26                 | 1-215-385-00 | s METAL 33 1% 1/6W       |
| R27                 | 1-215-457-00 | s METAL 33K 1% 1/6W      |
| R28                 | 1-215-409-00 | s METAL 330 1% 1/6W      |
| RB1                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB2                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB3                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB4                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB5                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB6                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB7                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB8                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB9                 | 1-231-405-00 | s RESISTOR BLOCK 1K      |
| RB10                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB11                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB12                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB13                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB14                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB15                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB16                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RB17                | 1-231-410-00 | s RESISTOR BLOCK 10Kx8   |
| RY1                 | 1-515-640-11 | s RELAY (5V)             |
| RY2                 | 1-515-640-11 | s RELAY (5V)             |
| RY3                 | 1-515-640-11 | s RELAY (5V)             |
| RY4                 | 1-515-640-11 | s RELAY (5V)             |
| S1                  | 1-571-029-11 | s SWITCH, PUSH (1 KEY)   |
| S2                  | 1-570-623-11 | s SWITCH, DIP 8-CKT      |
| S3                  | 1-570-623-11 | s SWITCH, DIP 8-CKT      |
| X1                  | 1-567-787-11 | s OSCILLATOR, CRYSTAL    |
| X2                  | 1-567-976-11 | s OSCILLATOR, CRYSTAL    |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

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DLP-9 BOARD  
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| Ref. No.<br>or Q'ty | Part No.     | SP Description                 |
|---------------------|--------------|--------------------------------|
| 1pc                 | A-6259-459-A | o MOUNTED CIRCUIT BOARD, DLP-9 |
| 4pcs                | 1-526-654-00 | s SOCKET, IC (DP) 16P          |
| 3pcs                | 1-526-816-21 | o SOCKET, IC (DP) 24P          |
| 1pc                 | 1-572-594-11 | s SWITCH, DIP                  |
| 6pcs                | 2-280-622-21 | o SUPPORT (M3X10), HEXAGON     |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD              |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10              |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8              |
| 1pc                 | 7-682-948-01 | s SCREW +PSW 3X8               |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V           |
| C2                  | 1-124-589-11 | s ELECT 47uF 20% 16V           |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE     |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE     |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE     |
| CN4                 | 1-580-674-11 | o CONNECTOR (PC BOARD) (M) 15P |
| CN5                 | 1-580-673-11 | o CONNECTOR (PC BOARD) (M) 12P |
| CN6                 | 1-580-673-11 | o CONNECTOR (PC BOARD) (M) 12P |
| CN7                 | 1-580-674-11 | o CONNECTOR (PC BOARD) (M) 15P |
| CN8                 | 1-569-606-11 | o CONNECTOR (PC BOARD) (M) 40P |
| F1                  | 1-576-031-11 | s FUSE, MICRO                  |
| F2                  | 1-576-031-11 | s FUSE, MICRO                  |
| ICA1                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA2                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA3                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA4                | 8-759-500-72 | s IC SN74ALS157AN              |
| ICA5                | 8-759-500-72 | s IC SN74ALS157AN              |
| ICA6                | 8-759-946-64 | s IC SN74ALS04BN               |
| ICA7                | 8-759-006-22 | s IC SN74LS283N                |
| ICA8                | 8-759-990-97 | s IC CXD8156Q                  |
| ICA11               | 8-759-990-97 | s IC CXD8156Q                  |
| ICA13               | 8-759-990-97 | s IC CXD8156Q                  |
| ICA16               | 8-759-147-02 | s IC UPD42101C-3               |
| ICA17               | 8-759-147-02 | s IC UPD42101C-3               |
| ICA18               | 8-759-147-02 | s IC UPD42101C-3               |
| ICA19               | 8-759-980-83 | s IC 74F574PC                  |
| ICA20               | 8-759-980-83 | s IC 74F574PC                  |
| ICB1                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICB2                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICB3                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICB4                | 8-759-705-63 | s IC CY7C291L-DLP9B4V1         |
| ICB5                | 8-759-900-69 | s IC SN74ALS74AN               |
| ICB6                | 8-759-006-22 | s IC SN74LS283N                |
| ICB7                | 8-759-006-22 | s IC SN74LS283N                |
| ICB8                | 8-759-942-67 | s IC L29C520PC                 |
| ICB10               | 8-759-990-97 | s IC CXD8156Q                  |
| ICB13               | 8-759-990-97 | s IC CXD8156Q                  |
| ICB16               | 8-759-147-02 | s IC UPD42101C-3               |
| ICB17               | 8-759-147-02 | s IC UPD42101C-3               |
| ICB18               | 8-759-147-02 | s IC UPD42101C-3               |
| ICB19               | 8-759-147-02 | s IC UPD42101C-3               |
| ICB20               | 8-759-946-64 | s IC SN74ALS04BN               |
| ICB21               | 8-759-147-02 | s IC UPD42101C-3               |
| ICB22               | 8-759-980-83 | s IC 74F574PC                  |
| ICB23               | 8-759-980-83 | s IC 74F574PC                  |
| ICB24               | 8-759-980-83 | s IC 74F574PC                  |
| ICB25               | 8-759-980-83 | s IC 74F574PC                  |

(DLP-9 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description          |
|---------------------|--------------|-------------------------|
| ICB26               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC1                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICC2                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICC3                | 8-759-918-33 | s IC CX20160            |
| ICC4                | 8-759-500-72 | s IC SN74ALS157AN       |
| ICC5                | 8-759-500-72 | s IC SN74ALS157AN       |
| ICC6                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICC7                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICC8                | 8-759-942-67 | s IC L29C520PC          |
| ICC9                | 8-759-705-61 | s IC CY7C291L-DLP9C9V1  |
| ICC10               | 8-759-990-97 | s IC CXD8156Q           |
| ICC13               | 8-759-990-97 | s IC CXD8156Q           |
| ICC18               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC19               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC20               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC21               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC22               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC23               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC24               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC25               | 8-759-147-02 | s IC UPD42101C-3        |
| ICC26               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD1                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICD2                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICD3                | 8-759-918-33 | s IC CX20160            |
| ICD4                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICD5                | 8-759-705-63 | s IC CY7C291L-DLP9B4V1  |
| ICD6                | 8-759-705-53 | s IC MB7112L-DLP9D6V1   |
| ICD7                | 8-759-705-52 | s IC MB7112L-DLP9D7V1   |
| ICD8                | 8-759-705-57 | s IC MB7112L-DLP9D8V1   |
| ICD9                | 8-759-705-60 | s IC MB7112L-DLP9D9V1   |
| ICD10               | 8-759-990-97 | s IC CXD8156Q           |
| ICD20               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD21               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD22               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD23               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD24               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD25               | 8-759-147-02 | s IC UPD42101C-3        |
| ICD26               | 8-759-147-02 | s IC UPD42101C-3        |
| ICE1                | 8-759-904-77 | s IC AM26LS32ACN        |
| ICE2                | 8-759-900-69 | s IC SN74ALS74AN        |
| ICE3                | 8-759-904-26 | s IC SN74ALS08N         |
| ICE4                | 8-759-500-72 | s IC SN74ALS157AN       |
| ICE5                | 8-759-946-36 | s IC SN74ALS163BN       |
| ICE6                | 8-759-946-36 | s IC SN74ALS163BN       |
| ICE7                | 8-759-912-03 | s IC SN74ALS138N        |
| ICE8                | 8-759-705-56 | s IC MB7112L-DLP9E8V1   |
| ICE9                | 8-759-705-59 | s IC MB7112L-DLP9E9V1   |
| ICE14               | 8-759-990-97 | s IC CXD8156Q           |
| ICE17               | 8-759-990-97 | s IC CXD8156Q           |
| ICE20               | 8-759-990-97 | s IC CXD8156Q           |
| ICE22               | 8-759-990-97 | s IC CXD8156Q           |
| ICE25               | 8-759-147-02 | s IC UPD42101C-3        |
| ICE26               | 8-759-147-02 | s IC UPD42101C-3        |
| ICF1                | 8-759-901-44 | s IC 74F240PC           |
| ICF2                | 8-759-901-44 | s IC 74F240PC           |
| ICF3                | 8-759-946-64 | s IC SN74ALS04BN        |
| ICF4                | 8-759-500-72 | s IC SN74ALS157AN       |
| ICF5                | 8-759-705-65 | s IC AT27HC642-DLP9F5V1 |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DLP-9 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description          |
|---------------------|--------------|-------------------------|
| ICF6                | 8-759-705-65 | s IC AT27HC642-DLP9F5V1 |
| ICF7                | 8-759-705-64 | s IC AT27HC642-DLP9F7V1 |
| ICF8                | 8-759-705-55 | s IC MB7112L-DLP9F8V1   |
| ICF9                | 8-759-705-54 | s IC MB7112L-DLP9F9V1   |
| ICF12               | 8-759-990-97 | s IC CXD8156Q           |
| ICF14               | 8-759-990-97 | s IC CXD8156Q           |
| ICF17               | 8-759-990-97 | s IC CXD8156Q           |
| ICF20               | 8-759-990-97 | s IC CXD8156Q           |
| ICF22               | 8-759-990-97 | s IC CXD8156Q           |
| ICF25               | 8-759-990-97 | s IC CXD8156Q           |
| ICG1                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICG3                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICG5                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICG7                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICG9                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICH1                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICH3                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICH5                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICH6                | 8-759-901-25 | s IC SN74LS125AN        |
| ICH7                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICH9                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICJ1                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICJ11               | 8-759-506-43 | s IC TMC2111B2C         |
| ICJ12               | 8-759-506-43 | s IC TMC2111B2C         |
| ICJ13               | 8-759-980-83 | s IC 74F574PC           |
| ICJ14               | 8-759-506-43 | s IC TMC2111B2C         |
| ICJ15               | 8-759-506-43 | s IC TMC2111B2C         |
| ICJ16               | 8-759-980-83 | s IC 74F574PC           |
| ICJ17               | 8-759-506-43 | s IC TMC2111B2C         |
| ICJ18               | 8-759-506-43 | s IC TMC2111B2C         |
| ICJ20               | 8-759-990-97 | s IC CXD8156Q           |
| ICJ22               | 8-759-990-97 | s IC CXD8156Q           |
| ICJ25               | 8-759-990-97 | s IC CXD8156Q           |
| ICK3                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICK5                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICK6                | 8-759-937-47 | s IC SN74ALS86N         |
| ICK7                | 8-759-946-38 | s IC SN74ALS574AN       |
| ICK9                | 8-759-500-04 | s IC LSP001AC-Q         |
| ICK11               | 8-759-946-64 | s IC SN74ALS04BN        |
| ICK12               | 8-759-946-64 | s IC SN74ALS04BN        |
| ICK13               | 8-759-980-83 | s IC 74F574PC           |
| ICK16               | 8-759-980-83 | s IC 74F574PC           |
| ICK17               | 8-759-980-83 | s IC 74F574PC           |
| ICK18               | 8-759-980-83 | s IC 74F574PC           |
| R1                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R2                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R3                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R4                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R5                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R6                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R7                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R8                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R9                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R10                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R11                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R12                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R13                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |

## (DLP-9 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description          |
|---------------------|--------------|-------------------------|
| R14                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R15                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R16                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R17                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R18                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W   |
| R19                 | 1-249-410-11 | s CARBON 270 5% 1/4W    |
| R20                 | 1-249-410-11 | s CARBON 270 5% 1/4W    |
| R21                 | 1-249-410-11 | s CARBON 270 5% 1/4W    |
| R22                 | 1-249-410-11 | s CARBON 270 5% 1/4W    |
| R23                 | 1-249-410-11 | s CARBON 270 5% 1/4W    |
| R24                 | 1-249-410-11 | s CARBON 270 5% 1/4W    |
| RB1                 | 1-231-385-00 | s RESISTOR BLOCK 4.7Kx8 |
| RB2                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4 |
| RB3                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4 |
| RB4                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4 |
| RB5                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4 |
| RB6                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4 |
| RB7                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4 |
| S1                  | 1-570-621-11 | s SWITCH, DIP           |
| S2                  | 1-554-027-00 | s SWITCH, DIGITAL       |
| S3                  | 1-570-598-11 | s SWITCH, DIP 4-CKT     |
| S4                  | 1-554-027-00 | s SWITCH, DIGITAL       |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

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DLP-10 BOARD  
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| Ref. No.<br>or Q'ty | Part No.     | SP Description                 |
|---------------------|--------------|--------------------------------|
| 6pcs                | 1-590-194-11 | o SOCKET, SIL (12P)            |
| CN1                 | 1-580-675-11 | o CONNECTOR (PC BOARD) (F) 15P |
| CN2                 | 1-562-772-11 | o CONNECTOR, 12P, FEMALE       |
| CN3                 | 1-562-772-11 | o CONNECTOR, 12P, FEMALE       |
| CN4                 | 1-580-675-11 | o CONNECTOR (PC BOARD) (F) 15P |
| CN5                 | 1-562-773-11 | o CONNECTOR, 40P, FEMALE       |
| ICA4                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA5                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA6                | 8-759-705-40 | s IC AT27HC642-DLP10A6V1       |
| ICA8                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA9                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA10               | 8-759-705-41 | s IC AT27HC642-DLP10A10V1      |
| ICA12               | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA13               | 8-759-946-38 | s IC SN74ALS574AN              |
| ICA14               | 8-759-705-40 | s IC AT27HC642-DLP10A6V1       |
| ICB1                | 8-752-304-30 | s IC CX23043                   |
| ICB3                | 8-752-304-30 | s IC CX23043                   |
| ICB4                | 8-759-990-97 | s IC CXD8156Q                  |
| ICB6                | 8-759-942-67 | s IC L29C520PC                 |
| ICB7                | 8-759-942-67 | s IC L29C520PC                 |
| ICB8                | 8-759-990-97 | s IC CXD8156Q                  |
| ICB10               | 8-759-942-67 | s IC L29C520PC                 |
| ICB11               | 8-759-942-67 | s IC L29C520PC                 |
| ICB12               | 8-759-990-97 | s IC CXD8156Q                  |
| ICB14               | 8-759-942-67 | s IC L29C520PC                 |
| ICB15               | 8-759-942-67 | s IC L29C520PC                 |
| ICC1                | 8-759-946-64 | s IC SN74ALS04BN               |
| ICC2                | 8-759-705-46 | s IC WS57C291B-DLP10C2V1       |
| ICC3                | 8-759-705-45 | s IC WS57C291B-DLP10C3V1       |
| ICC4                | 8-759-990-97 | s IC CXD8156Q                  |
| ICC6                | 8-759-990-97 | s IC CXD8156Q                  |
| ICC8                | 8-759-990-97 | s IC CXD8156Q                  |
| ICC10               | 8-759-990-97 | s IC CXD8156Q                  |
| ICC12               | 8-759-990-97 | s IC CXD8156Q                  |
| ICC14               | 8-759-990-97 | s IC CXD8156Q                  |
| ICD1                | 8-759-705-44 | s IC WS57C291B-DLP10D1V1       |
| ICD2                | 8-759-705-43 | s IC WS57C291B-DLP10D2V1       |
| ICD3                | 8-759-705-51 | s IC WS57C291B-DLP10D3V1       |
| ICD4                | 8-759-942-67 | s IC L29C520PC                 |
| ICD5                | 8-759-942-67 | s IC L29C520PC                 |
| ICD6                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICD7                | 8-759-946-38 | s IC SN74ALS574AN              |
| ICD8                | 8-759-942-67 | s IC L29C520PC                 |
| ICD9                | 8-759-942-67 | s IC L29C520PC                 |
| ICD10               | 8-759-946-38 | s IC SN74ALS574AN              |
| ICD11               | 8-759-946-38 | s IC SN74ALS574AN              |
| ICD12               | 8-759-942-67 | s IC L29C520PC                 |
| ICD13               | 8-759-942-67 | s IC L29C520PC                 |
| ICD14               | 8-759-946-38 | s IC SN74ALS574AN              |
| ICD15               | 8-759-946-38 | s IC SN74ALS574AN              |
| ICE2                | 8-759-705-42 | s IC WS57C291B-DLP10E2V1       |
| ICE3                | 8-759-705-50 | s IC WS57C291B-DLP10E3V1       |
| ICE4                | 8-759-990-97 | s IC CXD8156Q                  |
| ICE6                | 8-759-990-97 | s IC CXD8156Q                  |
| ICE8                | 8-759-990-97 | s IC CXD8156Q                  |
| ICE10               | 8-759-990-97 | s IC CXD8156Q                  |
| ICE12               | 8-759-990-97 | s IC CXD8156Q                  |

(DLP-10 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description           |
|---------------------|--------------|--------------------------|
| ICE14               | 8-759-990-97 | s IC CXD8156Q            |
| ICF1                | 8-759-705-48 | s IC WS57C291B-DLP10F1V1 |
| ICF2                | 8-759-705-47 | s IC WS57C291B-DLP10F2V1 |
| ICF3                | 8-759-705-49 | s IC WS57C291B-DLP10F3V1 |
| ICG2                | 8-759-500-72 | s IC SN74ALS157AN        |
| ICG3                | 8-759-500-72 | s IC SN74ALS157AN        |
| ICG4                | 8-759-147-02 | s IC UPD42101C-3         |
| ICG5                | 8-759-147-02 | s IC UPD42101C-3         |
| ICG6                | 8-759-147-02 | s IC UPD42101C-3         |
| ICG7                | 8-759-147-02 | s IC UPD42101C-3         |
| ICG8                | 8-759-147-02 | s IC UPD42101C-3         |
| ICG9                | 8-759-147-02 | s IC UPD42101C-3         |
| ICG10               | 8-759-147-02 | s IC UPD42101C-3         |
| ICG11               | 8-759-147-02 | s IC UPD42101C-3         |
| ICG12               | 8-759-147-02 | s IC UPD42101C-3         |
| ICG13               | 8-759-147-02 | s IC UPD42101C-3         |
| ICG14               | 8-759-147-02 | s IC UPD42101C-3         |
| ICG15               | 8-759-147-02 | s IC UPD42101C-3         |
| ICH1                | 8-759-901-44 | s IC 74F240PC            |
| ICH2                | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH3                | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH4                | 8-759-990-97 | s IC CXD8156Q            |
| ICH6                | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH7                | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH8                | 8-759-990-97 | s IC CXD8156Q            |
| ICH10               | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH11               | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH12               | 8-759-990-97 | s IC CXD8156Q            |
| ICH14               | 8-759-946-38 | s IC SN74ALS574AN        |
| ICH15               | 8-759-946-38 | s IC SN74ALS574AN        |
| R1                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R2                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R3                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R4                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R5                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R6                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R7                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R8                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R9                  | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R10                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R11                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R12                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R13                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R14                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R15                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R16                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R17                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R18                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R19                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R20                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R21                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R22                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R23                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R24                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R25                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R26                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |
| R27                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W    |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DLP-10 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description        |
|---------------------|--------------|-----------------------|
| R28                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R29                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R30                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R31                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R32                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R33                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R34                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R35                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R36                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R37                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R38                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R39                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R40                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R41                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R42                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R43                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R44                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R45                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R46                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R47                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R48                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R49                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R50                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R51                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| R52                 | 1-249-425-11 | s CARBON 4.7K 5% 1/4W |
| S1                  | 1-570-727-11 | s SWITCH, DIP         |
| S2                  | 1-570-727-11 | s SWITCH, DIP         |
| S3                  | 1-570-727-11 | s SWITCH, DIP         |
| S4                  | 1-572-594-11 | s SWITCH, DIP         |
| S5                  | 1-570-728-11 | s SWITCH, DIP         |
| S6                  | 1-570-728-11 | s SWITCH, DIP         |

## DPR-15 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-460-A | o MOUNTED CIRCUIT BOARD, DPR-15 |
| 1pc                 | 1-526-656-00 | s SOCKET, IC (DP) 20P           |
| 5pcs                | 1-526-816-21 | o SOCKET, IC (DP) 24P           |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD               |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10               |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8               |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V            |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| F1                  | 1-576-031-11 | s FUSE, MICRO                   |
| F2                  | 1-576-031-11 | s FUSE, MICRO                   |
| ICA1                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA2                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA3                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA4                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA5                | 8-759-916-71 | s IC SN74HC244N                 |
| ICA6                | 8-759-916-71 | s IC SN74HC244N                 |
| ICA7                | 8-752-322-06 | s IC CXK5814P-35                |
| ICA8                | 8-752-322-06 | s IC CXK5814P-35                |
| ICA9                | 8-759-921-34 | s IC SN74HC245N                 |
| ICA10               | 8-759-921-34 | s IC SN74HC245N                 |
| ICA11               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA12               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA13               | 8-759-719-15 | s IC PEEL18CV8P-SAM001V1        |
| ICA14               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA15               | 8-759-147-02 | s IC UPD42101C-3                |
| ICA16               | 8-759-147-02 | s IC UPD42101C-3                |
| ICA17               | 8-759-918-33 | s IC CX20160                    |
| ICA18               | 8-759-948-19 | s IC V74ACT821PS                |
| ICA19               | 8-759-706-02 | s IC WS57C291B-DPR15A19V1       |
| ICA20               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA21               | 8-759-948-19 | s IC V74ACT821PS                |
| ICA22               | 8-759-706-01 | s IC WS57C291B-DPR15A22V1       |
| ICA23               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA24               | 8-759-948-19 | s IC V74ACT821PS                |
| ICA25               | 8-759-706-05 | s IC WS57C291B-DPR15A25V1       |
| ICA26               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA27               | 8-759-706-03 | s IC WS57C291B-DPR15A27V1       |
| ICA28               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA29               | 8-759-948-19 | s IC V74ACT821PS                |
| ICA30               | 8-759-706-04 | s IC WS57C291B-DPR15A30V1       |
| ICA31               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB1                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB2                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB3                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB4                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB5                | 8-759-916-71 | s IC SN74HC244N                 |
| ICB6                | 8-759-916-71 | s IC SN74HC244N                 |
| ICB7                | 8-752-322-06 | s IC CXK5814P-35                |
| ICB8                | 8-752-322-06 | s IC CXK5814P-35                |
| ICB9                | 8-759-921-34 | s IC SN74HC245N                 |
| ICB10               | 8-759-921-34 | s IC SN74HC245N                 |
| ICB11               | 8-759-946-38 | s IC SN74ALS574AN               |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DPR-15 BOARD)

| Ref. No.<br>or Q'ty | Part No.       | SP Description          |
|---------------------|----------------|-------------------------|
| ICB12               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICB13               | 8-759-719-15 s | IC PEEL18CV8P-SAM001V1  |
| ICB14               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICB15               | 8-759-147-02 s | IC UPD42101C-3          |
| ICB16               | 8-759-147-02 s | IC UPD42101C-3          |
| ICB17               | 8-759-918-33 s | IC CX20160              |
| ICB18               | 8-759-917-87 s | IC 74F382PC             |
| ICB19               | 8-759-917-87 s | IC 74F382PC             |
| ICB20               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICB21               | 8-759-917-87 s | IC 74F382PC             |
| ICB22               | 8-759-917-87 s | IC 74F382PC             |
| ICB23               | 8-759-901-44 s | IC 74F240PC             |
| ICB24               | 8-759-917-87 s | IC 74F382PC             |
| ICB25               | 8-759-917-87 s | IC 74F382PC             |
| ICB26               | 8-759-917-87 s | IC 74F382PC             |
| ICB27               | 8-759-948-19 s | IC V74ACT821PS          |
| ICB28               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICB29               | 8-759-917-87 s | IC 74F382PC             |
| ICB30               | 8-759-917-87 s | IC 74F382PC             |
| ICB31               | 8-759-912-05 s | IC SN74ALS161BN         |
| ICB32               | 8-759-946-64 s | IC SN74ALS04BN          |
| ICB9A               | 8-759-904-26 s | IC SN74ALS08N           |
| ICB10A              | 8-759-904-38 s | IC SN74ALS32N           |
| ICB11A              | 8-759-904-36 s | IC SN74ALS27N           |
| ICB12A              | 8-759-916-14 s | IC SN74HC04N            |
| ICC1                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC2                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC3                | 8-759-936-60 s | IC SN74ALS273N          |
| ICC4                | 8-759-936-60 s | IC SN74ALS273N          |
| ICC5                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC6                | 8-759-918-33 s | IC CX20160              |
| ICC7                | 8-759-904-81 s | IC 74F08PC              |
| ICC8                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC9                | 8-759-904-26 s | IC SN74ALS08N           |
| ICC10               | 8-759-946-64 s | IC SN74ALS04BN          |
| ICC11               | 8-759-904-36 s | IC SN74ALS27N           |
| ICC13               | 8-759-948-19 s | IC V74ACT821PS          |
| ICC14               | 8-759-948-19 s | IC V74ACT821PS          |
| ICC15               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC16               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC17               | 8-759-917-87 s | IC 74F382PC             |
| ICC18               | 8-759-917-87 s | IC 74F382PC             |
| ICC19               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC20               | 8-759-948-19 s | IC V74ACT821PS          |
| ICC21               | 8-759-706-00 s | IC WS57C291B-DPR15C21V1 |
| ICC22               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC23               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC24               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC25               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC26               | 8-759-917-87 s | IC 74F382PC             |
| ICC27               | 8-759-906-76 s | IC 74F283PC             |
| ICC28               | 8-759-906-76 s | IC 74F283PC             |
| ICC29               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICC31               | 8-759-948-19 s | IC V74ACT821PS          |
| ICD1                | 8-759-904-77 s | IC AM26LS32ACN          |
| ICD2                | 8-759-901-44 s | IC 74F240PC             |
| ICD3                | 8-759-900-69 s | IC SN74ALS74AN          |
| ICD4                | 8-759-900-69 s | IC SN74ALS74AN          |
| ICD5                | 8-759-900-69 s | IC SN74ALS74AN          |

## (DPR-15 BOARD)

| Ref. No.<br>or Q'ty | Part No.       | SP Description          |
|---------------------|----------------|-------------------------|
| ICD6                | 8-759-904-18 s | IC SN74ALS00AN          |
| ICD7                | 8-759-916-66 s | IC SN74HCT240N          |
| ICD8                | 8-759-901-44 s | IC 74F240PC             |
| ICD9                | 8-759-906-71 s | IC 74F175PC             |
| ICD10               | 8-759-917-06 s | IC SN74HC574N           |
| ICD11               | 8-759-917-06 s | IC SN74HC574N           |
| ICD12               | 8-759-917-06 s | IC SN74HC574N           |
| ICD13               | 8-759-917-06 s | IC SN74HC574N           |
| ICD15               | 8-759-900-69 s | IC SN74ALS74AN          |
| ICD16               | 8-759-906-76 s | IC 74F283PC             |
| ICD17               | 8-759-906-76 s | IC 74F283PC             |
| ICD19               | 8-752-337-41 s | IC CXK1206M             |
| ICD22               | 8-752-337-41 s | IC CXK1206M             |
| ICD24               | 8-752-337-41 s | IC CXK1206M             |
| ICD26               | 8-759-948-19 s | IC V74ACT821PS          |
| ICD27               | 8-759-706-06 s | IC WS57C291B-DPR15D27V1 |
| ICD28               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICD29               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICD30               | 8-759-917-87 s | IC 74F382PC             |
| ICD31               | 8-759-917-87 s | IC 74F382PC             |
| ICE1                | 8-759-916-66 s | IC SN74HCT240N          |
| ICE2                | 8-759-912-30 s | IC SN74ALS640AN         |
| ICE3                | 8-759-916-66 s | IC SN74HCT240N          |
| ICE4                | 8-759-916-66 s | IC SN74HCT240N          |
| ICE5                | 8-759-916-66 s | IC SN74HCT240N          |
| ICE6                | 8-759-916-18 s | IC SN74HC10N            |
| ICE7                | 8-759-916-14 s | IC SN74HC04N            |
| ICE8                | 8-759-917-43 s | IC SN74HC138N           |
| ICE9                | 8-759-917-06 s | IC SN74HC574N           |
| ICE10               | 8-759-917-06 s | IC SN74HC574N           |
| ICE11               | 8-759-917-06 s | IC SN74HC574N           |
| ICE12               | 8-759-917-06 s | IC SN74HC574N           |
| ICE13               | 8-759-917-06 s | IC SN74HC574N           |
| ICE14               | 8-759-917-06 s | IC SN74HC574N           |
| ICE16               | 8-759-918-33 s | IC CX20160              |
| ICE19               | 8-752-337-41 s | IC CXK1206M             |
| ICE22               | 8-752-337-41 s | IC CXK1206M             |
| ICE24               | 8-752-337-41 s | IC CXK1206M             |
| ICE26               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICE27               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICE28               | 8-759-706-08 s | IC WS57C291B-DPR15E28V1 |
| ICE29               | 8-759-948-19 s | IC V74ACT821PS          |
| ICE30               | 8-752-304-30 s | IC CX23043              |
| ICE8A               | 8-759-917-43 s | IC SN74HC138N           |
| ICF1                | 8-759-916-66 s | IC SN74HCT240N          |
| ICF2                | 8-759-916-66 s | IC SN74HCT240N          |
| ICF3                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICF4                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICF5                | 8-759-916-42 s | IC SN74HC133N           |
| ICF6                | 8-759-916-42 s | IC SN74HC133N           |
| ICF7                | 8-759-916-42 s | IC SN74HC133N           |
| ICF8                | 8-759-904-38 s | IC SN74ALS32N           |
| ICF9                | 8-759-147-02 s | IC UPD42101C-3          |
| ICF10               | 8-759-906-78 s | IC 74F399PC             |
| ICF11               | 8-759-906-78 s | IC 74F399PC             |
| ICF12               | 8-759-706-20 s | IC AT27HC642-DPR15F12V1 |
| ICF13               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICF14               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICF15               | 8-759-706-21 s | IC AT27HC642-DPR15F15V1 |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DPR-15 BOARD)

| Ref. No.<br>or Q'ty | Part No.       | SP Description          |
|---------------------|----------------|-------------------------|
| ICF16               | 8-759-936-60 s | IC SN74ALS273N          |
| ICF17               | 8-759-706-09 s | IC WS57C291B-DPR15F17V1 |
| ICF19               | 8-752-337-41 s | IC CXK1206M             |
| ICF22               | 8-752-337-41 s | IC CXK1206M             |
| ICF24               | 8-752-337-41 s | IC CXK1206M             |
| ICF26               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICF27               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICF28               | 8-759-917-87 s | IC 74F382PC             |
| ICF29               | 8-759-917-87 s | IC 74F382PC             |
| ICF8A               | 8-759-803-70 s | IC SN74HC08N            |
| ICG1                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICG2                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICG3                | 8-759-705-98 s | IC WS57C291B-DPR15G3V1  |
| ICG4                | 8-759-706-22 s | IC AT27HC642-DPR15G4V1  |
| ICG5                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICG6                | 8-759-147-02 s | IC UPD42101C-3          |
| ICG7                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICG8                | 8-759-706-23 o | IC AT27HC642-DPR15G8V1  |
| ICG9                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICG10               | 8-759-946-38 s | IC SN74ALS574AN         |
| ICG11               | 8-759-906-76 s | IC 74F283PC             |
| ICG12               | 8-759-706-24 s | IC AT27HC642-DPR15G12V1 |
| ICG13               | 8-759-948-28 s | IC SM5828P              |
| ICG15               | 8-759-147-02 s | IC UPD42101C-3          |
| ICG16               | 8-759-147-02 s | IC UPD42101C-3          |
| ICG17               | 8-759-147-02 s | IC UPD42101C-3          |
| ICG19               | 8-752-337-41 s | IC CXK1206M             |
| ICG22               | 8-752-337-41 s | IC CXK1206M             |
| ICG24               | 8-752-337-41 s | IC CXK1206M             |
| ICG26               | 8-759-917-87 s | IC 74F382PC             |
| ICG27               | 8-759-917-87 s | IC 74F382PC             |
| ICG28               | 8-759-906-76 s | IC 74F283PC             |
| ICG29               | 8-759-906-76 s | IC 74F283PC             |
| ICG30               | 8-752-304-30 s | IC CX23043              |
| ICH1                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICH2                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICH3                | 8-759-705-99 s | IC WS57C291B-DPR15H3V1  |
| ICH4                | 8-759-147-02 s | IC UPD42101C-3          |
| ICH7                | 8-759-990-97 s | IC CXD8156Q             |
| ICH10               | 8-759-990-97 s | IC CXD8156Q             |
| ICH13               | 8-759-990-97 s | IC CXD8156Q             |
| ICH16               | 8-759-990-97 s | IC CXD8156Q             |
| ICH20               | 8-759-990-96 s | IC CXD8157Q             |
| ICH24               | 8-759-990-96 s | IC CXD8157Q             |
| ICH27               | 8-759-904-26 s | IC SN74ALS08N           |
| ICH28               | 8-759-946-64 s | IC SN74ALS04BN          |
| ICH29               | 8-759-904-38 s | IC SN74ALS32N           |
| ICH30               | 8-752-304-30 s | IC CX23043              |
| ICJ1                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICJ2                | 8-759-946-38 s | IC SN74ALS574AN         |
| ICJ3                | 8-759-918-33 s | IC CX20160              |
| ICJ4                | 8-759-918-33 s | IC CX20160              |
| ICJ5                | 8-759-719-15 s | IC PEEL18CV8P-SAM001V1  |
| ICJ7                | 8-759-990-97 s | IC CXD8156Q             |
| ICJ10               | 8-759-990-97 s | IC CXD8156Q             |
| ICJ13               | 8-759-990-97 s | IC CXD8156Q             |
| ICJ16               | 8-759-990-97 s | IC CXD8156Q             |
| ICJ20               | 8-759-990-97 s | IC CXD8156Q             |

## (DPR-15 BOARD)

| Ref. No.<br>or Q'ty | Part No.       | SP Description        |
|---------------------|----------------|-----------------------|
| ICJ24               | 8-759-990-96 s | IC CXD8157Q           |
| ICJ26               | 8-759-946-38 s | IC SN74ALS574AN       |
| ICJ27               | 8-759-900-69 s | IC SN74ALS74AN        |
| ICJ28               | 8-759-900-69 s | IC SN74ALS74AN        |
| ICJ29               | 8-759-937-47 s | IC SN74ALS86N         |
| ICJ30               | 8-752-304-30 s | IC CX23043            |
| ICK26               | 8-759-946-38 s | IC SN74ALS574AN       |
| ICK27               | 8-759-900-69 s | IC SN74ALS74AN        |
| ICK28               | 8-759-900-69 s | IC SN74ALS74AN        |
| RB1                 | 1-231-525-00 s | RESISTOR BLOCK 4.7Kx4 |
| RB2                 | 1-231-385-00 s | RESISTOR BLOCK 4.7Kx8 |
| RB3                 | 1-231-525-00 s | RESISTOR BLOCK 4.7Kx4 |
| RB4                 | 1-231-525-00 s | RESISTOR BLOCK 4.7Kx4 |
| RB5                 | 1-231-501-00 s | RESISTOR BLOCK 470x4  |
| RB6                 | 1-231-401-00 s | RESISTOR BLOCK 470x8  |
| RB7                 | 1-231-385-00 s | RESISTOR BLOCK 4.7Kx8 |
| RB8                 | 1-231-525-00 s | RESISTOR BLOCK 4.7Kx4 |
| RB9                 | 1-231-502-00 s | RESISTOR BLOCK 510x4  |
| RB10                | 1-231-402-11 s | RESISTOR BLOCK 510x8  |
| S1                  | 1-570-598-11 s | SWITCH, DIP 4-CKT     |
| S2                  | 1-554-027-00 s | SWITCH, DIGITAL       |
| S3                  | 1-554-027-00 s | SWITCH, DIGITAL       |
| S4                  | 1-554-027-00 s | SWITCH, DIGITAL       |
| S5                  | 1-554-027-00 s | SWITCH, DIGITAL       |
| S6                  | 1-570-623-11 s | SWITCH, DIP 8-CKT     |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## DPR-16 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-461-A | o MOUNTED CIRCUIT BOARD, DPR-16 |
| 1pc                 | 1-526-654-00 | s SOCKET, IC (DP) 16P           |
| 1pc                 | 1-526-656-00 | s SOCKET, IC (DP) 20P           |
| 5pcs                | 1-526-816-21 | o SOCKET, IC (DP) 24P           |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD               |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10               |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8               |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V            |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| COP1                | 1-563-859-11 | s PLUG, SHORTING                |
| COP2                | 1-563-859-11 | s PLUG, SHORTING                |
| COP3                | 1-563-859-11 | s PLUG, SHORTING                |
| COP4                | 1-563-859-11 | s PLUG, SHORTING                |
| COP5                | 1-563-859-11 | s PLUG, SHORTING                |
| COP6                | 1-563-859-11 | s PLUG, SHORTING                |
| COP7                | 1-563-859-11 | s PLUG, SHORTING                |
| COR1                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| COR2                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| COR3                | 1-566-396-11 | o PIN, CONNECTOR 10P            |
| COR4                | 1-566-388-11 | o CONNECTOR, 8P, MALE           |
| COR5                | 1-566-388-11 | o CONNECTOR, 8P, MALE           |
| F1                  | 1-576-031-11 | s FUSE, MICRO                   |
| F2                  | 1-576-031-11 | s FUSE, MICRO                   |
| ICA3                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA4                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA6                | 8-759-990-97 | s IC CXD8156Q                   |
| ICA8                | 8-759-719-16 | s IC EPMS016-H24191BV1          |
| ICA9                | 8-759-320-87 | s IC HM63021P-28                |
| ICA11               | 8-759-918-33 | s IC CX20160                    |
| ICA13               | 8-759-990-97 | s IC CXD8156Q                   |
| ICA15               | 8-759-946-63 | s IC SN74ALS541N                |
| ICA16               | 8-759-946-63 | s IC SN74ALS541N                |
| ICA17               | 8-759-946-38 | s IC SN74ALS574AN               |
| ICA18               | 8-759-946-63 | s IC SN74ALS541N                |
| ICA20               | 8-752-337-41 | s IC CXK1206M                   |
| ICA23               | 8-752-337-41 | s IC CXK1206M                   |
| ICA26               | 8-759-990-97 | s IC CXD8156Q                   |
| ICA28               | 8-759-904-26 | s IC SN74ALS08N                 |
| ICA29               | 8-759-904-38 | s IC SN74ALS32N                 |
| ICA30               | 8-759-904-36 | s IC SN74ALS27N                 |
| ICA31               | 8-759-946-64 | s IC SN74ALS04BN                |
| ICA32               | 8-759-936-54 | s IC SN74ALS175N                |
| ICA33               | 8-752-304-30 | s IC CX23043                    |
| ICB2                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB3                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB4                | 8-759-946-38 | s IC SN74ALS574AN               |
| ICB6                | 8-759-990-97 | s IC CXD8156Q                   |
| ICB8                | 8-759-918-33 | s IC CX20160                    |
| ICB11               | 8-759-918-33 | s IC CX20160                    |
| ICB13               | 8-759-990-97 | s IC CXD8156Q                   |
| ICB15               | 8-759-946-63 | s IC SN74ALS541N                |
| ICB16               | 8-759-946-63 | s IC SN74ALS541N                |
| ICB17               | 8-759-946-63 | s IC SN74ALS541N                |

## (DPR-16 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description         |
|---------------------|--------------|------------------------|
| ICB18               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICB20               | 8-752-337-41 | s IC CXK1206M          |
| ICB23               | 8-752-337-41 | s IC CXK1206M          |
| ICB25               | 8-759-918-33 | s IC CX20160           |
| ICB26               | 8-759-918-33 | s IC CX20160           |
| ICB27               | 8-759-918-33 | s IC CX20160           |
| ICB28               | 8-759-918-33 | s IC CX20160           |
| ICB29               | 8-759-904-26 | s IC SN74ALS08N        |
| ICB30               | 8-759-904-38 | s IC SN74ALS32N        |
| ICB31               | 8-759-904-36 | s IC SN74ALS27N        |
| ICB32               | 8-759-946-64 | s IC SN74ALS04BN       |
| ICC8                | 8-759-989-55 | s IC SN74ALS244BN      |
| ICC9                | 8-759-320-87 | s IC HM63021P-28       |
| ICC20               | 8-752-337-41 | s IC CXK1206M          |
| ICC23               | 8-752-337-41 | s IC CXK1206M          |
| ICC29               | 8-759-904-18 | s IC SN74ALS00AN       |
| ICC30               | 8-759-906-71 | s IC 74F175PC          |
| ICC31               | 8-759-946-36 | s IC SN74ALS163BN      |
| ICC32               | 8-759-904-18 | s IC SN74ALS00AN       |
| ICD2                | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD3                | 8-759-936-60 | s IC SN74ALS273N       |
| ICD4                | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD6                | 8-759-990-96 | s IC CXD8157Q          |
| ICD11               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD12               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD13               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD14               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD15               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD16               | 8-759-946-63 | s IC SN74ALS541N       |
| ICD17               | 8-759-946-63 | s IC SN74ALS541N       |
| ICD18               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICD20               | 8-752-337-41 | s IC CXK1206M          |
| ICD23               | 8-752-337-41 | s IC CXK1206M          |
| ICD26               | 8-759-990-97 | s IC CXD8156Q          |
| ICD28               | 8-759-904-38 | s IC SN74ALS32N        |
| ICD29               | 8-759-904-26 | s IC SN74ALS08N        |
| ICD30               | 8-759-900-69 | s IC SN74ALS74AN       |
| ICD31               | 8-759-946-64 | s IC SN74ALS04BN       |
| ICD33               | 8-752-304-30 | s IC CX23043           |
| ICE2                | 8-759-946-38 | s IC SN74ALS574AN      |
| ICE3                | 8-759-989-61 | s IC SN74ALS564AN      |
| ICE4                | 8-759-946-38 | s IC SN74ALS574AN      |
| ICE6                | 8-759-906-76 | s IC 74F283PC          |
| ICE7                | 8-759-906-76 | s IC 74F283PC          |
| ICE8                | 8-759-946-38 | s IC SN74ALS574AN      |
| ICE9                | 8-759-320-87 | s IC HM63021P-28       |
| ICE11               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICE12               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICE13               | 8-759-946-38 | s IC SN74ALS574AN      |
| ICE14               | 8-759-500-72 | s IC SN74ALS157AN      |
| ICE16               | 8-759-990-97 | s IC CXD8156Q          |
| ICE19               | 8-759-706-31 | s IC MB7112-DPR16E19V1 |
| ICE25               | 8-752-322-06 | s IC CXK5814P-35       |
| ICE26               | 8-752-322-06 | s IC CXK5814P-35       |
| ICE27               | 8-759-948-21 | s IC V74ACT827PS       |
| ICE28               | 8-759-948-19 | s IC V74ACT821PS       |
| ICE29               | 8-759-948-21 | s IC V74ACT827PS       |
| ICE30               | 8-759-948-19 | s IC V74ACT821PS       |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".



## (DPR-16 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description        |
|---------------------|--------------|-----------------------|
| ICE31               | 8-759-500-72 | s IC SN74ALS157AN     |
| ICE32               | 8-759-500-72 | s IC SN74ALS157AN     |
| ICE33               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICE34               | 8-759-901-64 | s IC SN74LS164N       |
| ICE35               | 8-759-901-64 | s IC SN74LS164N       |
| ICF2                | 8-759-904-77 | s IC AM26LS32ACN      |
| ICF3                | 8-759-901-44 | s IC 74F240PC         |
| ICF4                | 8-759-916-66 | s IC SN74HCT240N      |
| ICF5                | 8-759-912-30 | s IC SN74ALS640AN     |
| ICF6                | 8-759-906-76 | s IC 74F283PC         |
| ICF7                | 8-759-906-76 | s IC 74F283PC         |
| ICF8                | 8-759-916-54 | s IC SN74HC174N       |
| ICF9                | 8-759-916-54 | s IC SN74HC174N       |
| ICF10               | 8-759-901-44 | s IC 74F240PC         |
| ICF11               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICF12               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICF13               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICF14               | 8-759-500-72 | s IC SN74ALS157AN     |
| ICF15               | 8-759-202-84 | s IC SN74HC109N       |
| ICF16               | 8-759-916-29 | s IC SN74HC74N        |
| ICF20               | 8-759-901-44 | s IC 74F240PC         |
| ICF21               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICF22               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICF23               | 8-759-912-36 | s IC SN74ALS645AN     |
| ICF24               | 8-759-912-36 | s IC SN74ALS645AN     |
| ICF31               | 8-759-916-01 | s IC SN74ALS153N      |
| ICF32               | 8-759-916-01 | s IC SN74ALS153N      |
| ICG2                | 8-759-916-66 | s IC SN74HCT240N      |
| ICG3                | 8-759-946-38 | s IC SN74ALS574AN     |
| ICG4                | 8-759-946-38 | s IC SN74ALS574AN     |
| ICG5                | 8-759-946-38 | s IC SN74ALS574AN     |
| ICG19               | 8-759-500-72 | s IC SN74ALS157AN     |
| ICG20               | 8-759-912-05 | s IC SN74ALS161BN     |
| ICG21               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICG22               | 8-759-946-38 | s IC SN74ALS574AN     |
| ICG23               | 8-759-912-36 | s IC SN74ALS645AN     |
| ICG24               | 8-759-912-36 | s IC SN74ALS645AN     |
| ICG25               | 8-752-322-06 | s IC CXK5814P-35      |
| ICG26               | 8-752-322-06 | s IC CXK5814P-35      |
| ICG27               | 8-759-948-21 | s IC V74ACT827PS      |
| ICG28               | 8-759-948-19 | s IC V74ACT821PS      |
| ICG29               | 8-759-948-21 | s IC V74ACT827PS      |
| ICG30               | 8-759-948-19 | s IC V74ACT821PS      |
| ICG31               | 8-759-006-22 | s IC SN74LS283N       |
| ICG32               | 8-759-901-64 | s IC SN74LS164N       |
| ICG33               | 8-759-948-28 | s IC SM5828P          |
| ICG35               | 8-759-726-81 | s IC PEEL18CV8-CNT5V1 |
| ICH1                | 8-759-916-66 | s IC SN74HCT240N      |
| ICH2                | 8-759-916-66 | s IC SN74HCT240N      |
| ICH3                | 8-759-946-38 | s IC SN74ALS574AN     |
| ICH4                | 8-759-946-38 | s IC SN74ALS574AN     |
| ICH5                | 8-759-918-33 | s IC CX20160          |
| ICH7                | 8-759-990-96 | s IC CXD8157Q         |
| ICH9                | 8-759-990-96 | s IC CXD8157Q         |
| ICH13               | 8-759-990-97 | s IC CXD8156Q         |
| ICH16               | 8-752-337-41 | s IC CXK1206M         |
| ICH18               | 8-752-337-41 | s IC CXK1206M         |
| ICH20               | 8-759-946-38 | s IC SN74ALS574AN     |

## (DPR-16 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICH21               | 8-759-500-72 | s IC SN74ALS157AN         |
| ICH22               | 8-759-500-72 | s IC SN74ALS157AN         |
| ICH24               | 8-752-337-41 | s IC CXK1206M             |
| ICH27               | 8-752-337-41 | s IC CXK1206M             |
| ICH29               | 8-759-918-33 | s IC CX20160              |
| ICH30               | 8-759-918-33 | s IC CX20160              |
| ICH31               | 8-759-946-64 | s IC SN74ALS04BN          |
| ICH32               | 8-752-304-30 | s IC CX23043              |
| ICH33               | 8-752-304-30 | s IC CX23043              |
| ICJ6                | 8-759-936-60 | s IC SN74ALS273N          |
| ICJ7                | 8-759-918-33 | s IC CX20160              |
| ICJ8                | 8-759-912-12 | s IC SN74ALS240AN         |
| ICJ9                | 8-759-946-38 | s IC SN74ALS574AN         |
| ICJ10               | 8-759-946-38 | s IC SN74ALS574AN         |
| ICJ11               | 8-759-917-06 | s IC SN74HC574N           |
| ICJ12               | 8-759-917-06 | s IC SN74HC574N           |
| ICJ13               | 8-759-948-19 | s IC V74ACT821PS          |
| ICJ15               | 8-752-337-41 | s IC CXK1206M             |
| ICJ18               | 8-752-337-41 | s IC CXK1206M             |
| ICJ20               | 8-759-989-55 | s IC SN74ALS244BN         |
| ICJ21               | 8-759-500-72 | s IC SN74ALS157AN         |
| ICJ22               | 8-759-500-72 | s IC SN74ALS157AN         |
| ICK1                | 8-759-916-42 | s IC SN74HC133N           |
| ICK2                | 8-759-916-66 | s IC SN74HCT240N          |
| ICK3                | 8-759-946-38 | s IC SN74ALS574AN         |
| ICK4                | 8-759-918-33 | s IC CX20160              |
| ICK5                | 8-759-916-66 | s IC SN74HCT240N          |
| ICK7                | 8-759-990-97 | s IC CXD8156Q             |
| ICK9                | 8-759-990-97 | s IC CXD8156Q             |
| ICK12               | 8-759-917-06 | s IC SN74HC574N           |
| ICK13               | 8-759-917-06 | s IC SN74HC574N           |
| ICK14               | 8-759-917-06 | s IC SN74HC574N           |
| ICK15               | 8-759-917-06 | s IC SN74HC574N           |
| ICK16               | 8-759-918-33 | s IC CX20160              |
| ICK17               | 8-759-918-33 | s IC CX20160              |
| ICK18               | 8-759-946-38 | s IC SN74ALS574AN         |
| ICK19               | 8-759-946-38 | s IC SN74ALS574AN         |
| ICK20               | 8-759-912-12 | s IC SN74ALS240AN         |
| ICK21               | 8-759-917-06 | s IC SN74HC574N           |
| ICK22               | 8-759-916-29 | s IC SN74HC74N            |
| ICK24               | 8-752-337-41 | s IC CXK1206M             |
| ICK27               | 8-752-337-41 | s IC CXK1206M             |
| ICK30               | 8-759-990-97 | s IC CXD8156Q             |
| ICK32               | 8-759-946-38 | s IC SN74ALS574AN         |
| ICK33               | 8-752-304-30 | s IC CX23043              |
| ICL1                | 8-759-916-42 | s IC SN74HC133N           |
| ICL2                | 8-759-916-42 | s IC SN74HC133N           |
| ICL3                | 8-759-916-18 | s IC SN74HC10N            |
| ICL5                | 8-759-917-43 | s IC SN74HC138N           |
| ICL22               | 8-759-904-26 | s IC SN74ALS08N           |
| ICL32               | 8-759-705-85 | s IC WS57C291B-DPR16L32V1 |
| ICL33               | 8-759-706-25 | s IC AT27HC642-DPR16L33V1 |
| ICM1                | 8-759-916-14 | s IC SN74HC04N            |
| ICM3                | 8-759-904-38 | s IC SN74ALS32N           |
| ICM4                | 8-759-803-70 | s IC SN74HC08N            |
| ICM5                | 8-759-917-43 | s IC SN74HC138N           |
| ICM7                | 8-759-990-97 | s IC CXD8156Q             |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(DPR-16 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICM9                | 8-759-990-97 | s IC CXD8156Q             |
| ICM12               | 8-759-917-06 | s IC SN74HC574N           |
| ICM13               | 8-759-917-06 | s IC SN74HC574N           |
| ICM14               | 8-759-918-33 | s IC CX20160              |
| ICM15               | 8-759-918-33 | s IC CX20160              |
| ICM16               | 8-759-706-10 | s IC WS57C291B-DPR16M16V1 |
| ICM17               | 8-759-706-11 | s IC WS57C291B-DPR16M17V1 |
| ICM19               | 8-759-990-96 | s IC CXD8157Q             |
| ICM21               | 8-759-989-55 | s IC SN74ALS244BN         |
| ICM22               | 8-759-936-54 | s IC SN74ALS175N          |
| ICM23               | 8-759-917-06 | s IC SN74HC574N           |
| ICM24               | 8-759-948-19 | s IC V74ACT821PS          |
| ICM25               | 8-752-304-30 | s IC CX23043              |
| ICM26               | 8-759-948-19 | s IC V74ACT821PS          |
| ICM27               | 8-752-304-30 | s IC CX23043              |
| ICM29               | 8-759-948-19 | s IC V74ACT821PS          |
| ICM30               | 8-759-948-19 | s IC V74ACT821PS          |
| ICM31               | 8-759-948-19 | s IC V74ACT821PS          |
| ICM32               | 8-759-705-84 | s IC WS57C291B-DPR16M32V1 |
| RB1                 | 1-231-385-00 | s RESISTOR BLOCK 4.7Kx8   |
| RB2                 | 1-231-399-00 | s RESISTOR BLOCK 330x8    |
| RB3                 | 1-231-399-00 | s RESISTOR BLOCK 330x8    |
| RB4                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB5                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB6                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB7                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB8                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB9                 | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB10                | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB11                | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB12                | 1-231-385-00 | s RESISTOR BLOCK 4.7Kx8   |
| RB13                | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| RB14                | 1-231-385-00 | s RESISTOR BLOCK 4.7Kx8   |
| RB15                | 1-231-405-00 | s RESISTOR BLOCK 1K       |
| RB16                | 1-231-385-00 | s RESISTOR BLOCK 4.7Kx8   |
| RB17                | 1-231-525-00 | s RESISTOR BLOCK 4.7Kx4   |
| S1                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S2                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S3                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S4                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S5                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S6                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S7                  | 1-570-598-11 | s SWITCH, DIP 4-CKT       |
| S8                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S9                  | 1-554-027-00 | s SWITCH, DIGITAL         |
| S10                 | 1-554-027-00 | s SWITCH, DIGITAL         |
| S11                 | 1-554-027-00 | s SWITCH, DIGITAL         |
| S12                 | 1-554-027-00 | s SWITCH, DIGITAL         |
| S13                 | 1-554-027-00 | s SWITCH, DIGITAL         |

DPR-17 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-457-A | o MOUNTED CIRCUIT BOARD, DPR-17 |
| 3pcs                | 1-526-816-21 | o SOCKET, IC (DP) 24P           |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD               |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10               |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8               |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V            |
| C97                 | 1-162-294-31 | s CERAMIC 0.001uF 10% 50V       |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| COP1                | 1-563-859-11 | s PLUG, SHORTING                |
| COP2                | 1-563-859-11 | s PLUG, SHORTING                |
| COP3                | 1-563-859-11 | s PLUG, SHORTING                |
| COR1                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| COR2                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| COR3                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| DL1                 | 1-415-167-00 | s DELAY LINE                    |
| F1                  | 1-576-031-11 | s FUSE, MICRO                   |
| F2                  | 1-576-031-11 | s FUSE, MICRO                   |
| ICA1                | 8-759-948-19 | s IC V74ACT821PS                |
| ICA2                | 8-759-913-63 | s IC SN74ALS374N                |
| ICA3                | 8-759-913-63 | s IC SN74ALS374N                |
| ICA4                | 8-759-921-69 | s IC SN74HC688N                 |
| ICA5                | 8-759-921-69 | s IC SN74HC688N                 |
| ICA6                | 8-759-917-43 | s IC SN74HC138N                 |
| ICA7                | 8-759-913-63 | s IC SN74ALS374N                |
| ICA8                | 8-759-913-63 | s IC SN74ALS374N                |
| ICA9                | 8-759-918-33 | s IC CX20160                    |
| ICB1                | 8-759-916-66 | s IC SN74HCT240N                |
| ICB2                | 8-759-916-66 | s IC SN74HCT240N                |
| ICB3                | 8-759-902-44 | s IC SN74LS244N                 |
| ICB4                | 8-759-902-44 | s IC SN74LS244N                 |
| ICB5                | 8-759-902-44 | s IC SN74LS244N                 |
| ICB6                | 8-759-946-36 | s IC SN74ALS163BN               |
| ICB7                | 8-759-946-36 | s IC SN74ALS163BN               |
| ICB8                | 8-759-006-22 | s IC SN74LS283N                 |
| ICB9                | 8-759-912-03 | s IC SN74ALS138N                |
| ICB10               | 8-759-904-87 | s IC 74F374PC                   |
| ICB11               | 8-759-948-19 | s IC V74ACT821PS                |
| ICB12               | 8-759-948-21 | s IC V74ACT827PS                |
| ICB13               | 8-759-948-19 | s IC V74ACT821PS                |
| ICB14               | 8-759-948-21 | s IC V74ACT827PS                |
| ICB16               | 8-759-906-78 | s IC 74F399PC                   |
| ICB17               | 8-759-904-87 | s IC 74F374PC                   |
| ICB18               | 8-759-327-74 | s IC CXK58258SP-35              |
| ICB19               | 8-759-327-74 | s IC CXK58258SP-35              |
| ICC1                | 8-759-906-78 | s IC 74F399PC                   |
| ICC2                | 8-759-906-78 | s IC 74F399PC                   |
| ICC3                | 8-759-906-78 | s IC 74F399PC                   |
| ICC4                | 8-759-906-78 | s IC 74F399PC                   |
| ICC5                | 8-759-906-78 | s IC 74F399PC                   |
| ICC6                | 8-759-906-78 | s IC 74F399PC                   |
| ICC7                | 8-759-906-78 | s IC 74F399PC                   |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DPR-17 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICC8                | 8-759-915-41 | s IC 74F02PC              |
| ICC10               | 8-759-938-94 | s IC 74F158APC            |
| ICC11               | 8-752-304-30 | s IC CX23043              |
| ICC12               | 8-752-304-30 | s IC CX23043              |
| ICC13               | 8-752-304-30 | s IC CX23043              |
| ICC14               | 8-752-304-30 | s IC CX23043              |
| ICC16               | 8-759-906-78 | s IC 74F399PC             |
| ICC17               | 8-759-912-03 | s IC SN74ALS138N          |
| ICC18               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICC19               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICD1                | 8-759-904-77 | s IC AM26LS32ACN          |
| ICD2                | 8-759-904-87 | s IC 74F374PC             |
| ICD3                | 8-759-904-80 | s IC 74F04PC              |
| ICD4                | 8-759-906-78 | s IC 74F399PC             |
| ICD5                | 8-759-906-78 | s IC 74F399PC             |
| ICD6                | 8-759-906-78 | s IC 74F399PC             |
| ICD7                | 8-759-906-78 | s IC 74F399PC             |
| ICD8                | 8-759-904-79 | s IC 74F00PC              |
| ICD9                | 8-759-904-80 | s IC 74F04PC              |
| ICD10               | 8-759-915-93 | s IC 74F163APC            |
| ICD11               | 8-759-948-19 | s IC V74ACT821PS          |
| ICD12               | 8-759-705-86 | s IC WS57C291B-DPR17D12V1 |
| ICD13               | 8-759-948-19 | s IC V74ACT821PS          |
| ICD14               | 8-759-705-87 | s IC WS57C291B-DPR17D14V1 |
| ICD15               | 8-759-904-80 | s IC 74F04PC              |
| ICD16               | 8-759-906-78 | s IC 74F399PC             |
| ICD17               | 8-759-904-87 | s IC 74F374PC             |
| ICD19               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICE1                | 8-759-906-78 | s IC 74F399PC             |
| ICE2                | 8-759-906-78 | s IC 74F399PC             |
| ICE3                | 8-759-906-78 | s IC 74F399PC             |
| ICE4                | 8-759-906-78 | s IC 74F399PC             |
| ICE5                | 8-759-906-78 | s IC 74F399PC             |
| ICE6                | 8-759-906-78 | s IC 74F399PC             |
| ICE7                | 8-759-906-78 | s IC 74F399PC             |
| ICE8                | 8-759-904-79 | s IC 74F00PC              |
| ICE9                | 8-759-904-83 | s IC 74F32PC              |
| ICE12               | 8-759-916-96 | s IC SN74HC374N           |
| ICE15               | 8-759-906-78 | s IC 74F399PC             |
| ICE16               | 8-759-906-78 | s IC 74F399PC             |
| ICE17               | 8-759-904-87 | s IC 74F374PC             |
| ICE18               | 8-759-912-48 | s IC SN74ALS874NT         |
| ICE19               | 8-759-912-48 | s IC SN74ALS874NT         |
| ICF1                | 8-759-906-78 | s IC 74F399PC             |
| ICF2                | 8-759-906-78 | s IC 74F399PC             |
| ICF3                | 8-759-906-78 | s IC 74F399PC             |
| ICF4                | 8-759-906-78 | s IC 74F399PC             |
| ICF5                | 8-759-916-25 | s IC SN74HC32N            |
| ICF6                | 8-759-904-79 | s IC 74F00PC              |
| ICF7                | 8-759-904-84 | s IC 74F74PC              |
| ICF8                | 8-759-946-64 | s IC SN74ALS04BN          |
| ICF9                | 8-759-916-14 | s IC SN74HC04N            |
| ICF10               | 8-759-906-66 | s IC 74F86PC              |
| ICF12               | 8-759-803-70 | s IC SN74HC08N            |
| ICF13               | 8-759-901-64 | s IC SN74ALS164N          |
| ICF16               | 8-759-906-78 | s IC 74F399PC             |
| ICF17               | 8-759-904-87 | s IC 74F374PC             |
| ICF18               | 8-759-327-74 | s IC CXK58258SP-35        |

## (DPR-17 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICF19               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICG1                | 8-759-906-78 | s IC 74F399PC             |
| ICG2                | 8-759-906-78 | s IC 74F399PC             |
| ICG3                | 8-759-906-78 | s IC 74F399PC             |
| ICG4                | 8-759-906-78 | s IC 74F399PC             |
| ICG5                | 8-759-906-78 | s IC 74F399PC             |
| ICG6                | 8-759-906-78 | s IC 74F399PC             |
| ICG7                | 8-759-906-78 | s IC 74F399PC             |
| ICG8                | 8-759-906-76 | s IC 74F283PC             |
| ICG9                | 8-759-906-76 | s IC 74F283PC             |
| ICG10               | 8-759-906-76 | s IC 74F283PC             |
| ICG11               | 8-759-906-76 | s IC 74F283PC             |
| ICG12               | 8-759-906-76 | s IC 74F283PC             |
| ICG13               | 8-759-906-78 | s IC 74F399PC             |
| ICG14               | 8-759-906-78 | s IC 74F399PC             |
| ICG16               | 8-759-906-78 | s IC 74F399PC             |
| ICG17               | 8-759-912-03 | s IC SN74ALS138N          |
| ICG18               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICG19               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICH1                | 8-759-906-78 | s IC 74F399PC             |
| ICH2                | 8-759-906-78 | s IC 74F399PC             |
| ICH3                | 8-759-906-78 | s IC 74F399PC             |
| ICH4                | 8-759-906-78 | s IC 74F399PC             |
| ICH5                | 8-759-948-19 | s IC V74ACT821PS          |
| ICH6                | 8-759-904-81 | s IC 74F08PC              |
| ICH7                | 8-759-906-76 | s IC 74F283PC             |
| ICH8                | 8-759-906-76 | s IC 74F283PC             |
| ICH9                | 8-759-904-87 | s IC 74F374PC             |
| ICH10               | 8-759-912-03 | s IC SN74ALS138N          |
| ICH11               | 8-759-904-87 | s IC 74F374PC             |
| ICH12               | 8-759-904-87 | s IC 74F374PC             |
| ICH13               | 8-759-906-78 | s IC 74F399PC             |
| ICH14               | 8-759-906-78 | s IC 74F399PC             |
| ICH15               | 8-759-906-78 | s IC 74F399PC             |
| ICH16               | 8-759-906-78 | s IC 74F399PC             |
| ICH17               | 8-759-904-87 | s IC 74F374PC             |
| ICH18               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICJ1                | 8-759-913-63 | s IC SN74ALS374N          |
| ICJ2                | 8-759-904-87 | s IC 74F374PC             |
| ICJ3                | 8-759-916-01 | s IC SN74ALS153N          |
| ICJ4                | 8-759-916-01 | s IC SN74ALS153N          |
| ICJ5                | 8-759-913-63 | s IC SN74ALS374N          |
| ICJ6                | 8-759-912-48 | s IC SN74ALS874NT         |
| ICJ7                | 8-759-912-48 | s IC SN74ALS874NT         |
| ICJ8                | 8-759-948-19 | s IC V74ACT821PS          |
| ICJ9                | 8-759-327-74 | s IC CXK58258SP-35        |
| ICJ10               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICJ12               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICJ13               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICJ14               | 8-759-327-74 | s IC CXK58258SP-35        |
| ICJ15               | 8-759-906-78 | s IC 74F399PC             |
| ICJ16               | 8-759-906-78 | s IC 74F399PC             |
| ICJ17               | 8-759-904-87 | s IC 74F374PC             |
| ICJ18               | 8-759-912-48 | s IC SN74ALS874NT         |
| ICJ19               | 8-759-912-48 | s IC SN74ALS874NT         |
| ICJ20               | 8-759-706-26 | s IC AT27HC642-DPR17J20V1 |
| R3                  | 1-215-397-00 | s METAL 100 1% 1/6W       |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DPR-17 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description         |
|---------------------|--------------|------------------------|
| RB1                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8 |
| RB2                 | 1-231-533-00 | s RESISTOR BLOCK 10Kx4 |
| RB3                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8 |
| RB4                 | 1-231-533-00 | s RESISTOR BLOCK 10Kx4 |
| S1                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S2                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S3                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S4                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S5                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S6                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S7                  | 1-570-602-11 | s SWITCH, DIP 2-CKT    |

## DPR-18 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-456-A | o MOUNTED CIRCUIT BOARD, DPR-18 |
| 2pcs                | 1-526-659-00 | s SOCKET, IC (DP) 28P           |
| 4pcs                | 1-526-816-21 | o SOCKET, IC (DP) 24P           |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD               |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10               |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8               |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V            |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| COP1                | 1-563-859-11 | s PLUG, SHORTING                |
| COR2                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| F1                  | 1-576-031-11 | s FUSE, MICRO                   |
| F2                  | 1-576-031-11 | s FUSE, MICRO                   |
| ICA1                | 8-759-904-87 | s IC 74F374PC                   |
| ICA2                | 8-759-904-87 | s IC 74F374PC                   |
| ICA3                | 8-759-900-69 | s IC SN74ALS74AN                |
| ICA4                | 8-759-906-76 | s IC 74F283PC                   |
| ICA5                | 8-759-906-76 | s IC 74F283PC                   |
| ICA7                | 8-759-990-97 | s IC CXD8156Q                   |
| ICA9                | 8-759-942-67 | s IC L29C520PC                  |
| ICA10               | 8-759-942-67 | s IC L29C520PC                  |
| ICA11               | 8-759-904-81 | s IC 74F08PC                    |
| ICA12               | 8-759-946-36 | s IC SN74ALS163BN               |
| ICA13               | 8-759-946-36 | s IC SN74ALS163BN               |
| ICA14               | 8-759-946-36 | s IC SN74ALS163BN               |
| ICA15               | 8-759-942-67 | s IC L29C520PC                  |
| ICA16               | 8-759-916-54 | s IC SN74HC174N                 |
| ICA17               | 8-759-948-19 | s IC V74ACT821PS                |
| ICA18               | 8-759-948-21 | s IC V74ACT827PS                |
| ICA20               | 8-752-304-30 | s IC CX23043                    |
| ICA21               | 8-752-304-30 | s IC CX23043                    |
| ICA23               | 8-759-990-97 | s IC CXD8156Q                   |
| ICB1                | 8-759-904-87 | s IC 74F374PC                   |
| ICB2                | 8-759-904-87 | s IC 74F374PC                   |
| ICB3                | 8-759-904-18 | s IC SN74ALS00AN                |
| ICB4                | 8-759-906-76 | s IC 74F283PC                   |
| ICB5                | 8-759-906-76 | s IC 74F283PC                   |
| ICB9                | 8-759-916-54 | s IC SN74HC174N                 |
| ICB10               | 8-759-916-54 | s IC SN74HC174N                 |
| ICB11               | 8-759-001-87 | s IC 74F20PC                    |
| ICB12               | 8-759-914-96 | s IC N74F85N                    |
| ICB13               | 8-759-914-96 | s IC N74F85N                    |
| ICB14               | 8-759-914-96 | s IC N74F85N                    |
| ICB15               | 8-759-942-67 | s IC L29C520PC                  |
| ICB16               | 8-759-916-54 | s IC SN74HC174N                 |
| ICB17               | 8-759-948-19 | s IC V74ACT821PS                |
| ICB18               | 8-759-948-21 | s IC V74ACT827PS                |
| ICB19               | 8-759-916-14 | s IC SN74HC04N                  |
| ICB20               | 8-759-918-33 | s IC CX20160                    |
| ICB21               | 8-759-917-43 | s IC SN74HC138N                 |
| ICC1                | 8-759-904-87 | s IC 74F374PC                   |
| ICC2                | 8-759-904-87 | s IC 74F374PC                   |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## (DPR-18 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICC3                | 8-759-946-64 | s IC SN74ALS04BN          |
| ICC4                | 8-759-906-76 | s IC 74F283PC             |
| ICC5                | 8-759-906-76 | s IC 74F283PC             |
| ICC7                | 8-759-990-97 | s IC CXD8156Q             |
| ICC9                | 8-759-942-67 | s IC L29C520PC            |
| ICC10               | 8-759-942-67 | s IC L29C520PC            |
| ICC12               | 8-759-946-36 | s IC SN74ALS163BN         |
| ICC13               | 8-759-946-36 | s IC SN74ALS163BN         |
| ICC14               | 8-759-946-36 | s IC SN74ALS163BN         |
| ICC15               | 8-759-942-67 | s IC L29C520PC            |
| ICC16               | 8-759-916-54 | s IC SN74HC174N           |
| ICC17               | 8-759-904-38 | s IC SN74ALS32N           |
| ICC18               | 8-759-917-43 | s IC SN74HC138N           |
| ICC19               | 8-759-917-43 | s IC SN74HC138N           |
| ICC20               | 8-759-917-43 | s IC SN74HC138N           |
| ICC21               | 8-759-917-43 | s IC SN74HC138N           |
| ICC22               | 8-759-916-96 | s IC SN74HC374N           |
| ICC23               | 8-759-916-96 | s IC SN74HC374N           |
| ICC24               | 8-759-904-87 | s IC 74F374PC             |
| ICC25               | 8-759-904-87 | s IC 74F374PC             |
| ICD1                | 8-759-904-77 | s IC AM26LS32ACN          |
| ICD2                | 8-759-902-44 | s IC SN74LS244N           |
| ICD3                | 8-759-921-69 | s IC SN74HC688N           |
| ICD4                | 8-759-921-69 | s IC SN74HC688N           |
| ICD5                | 8-759-904-80 | s IC 74F04PC              |
| ICD9                | 8-759-916-54 | s IC SN74HC174N           |
| ICD10               | 8-759-916-54 | s IC SN74HC174N           |
| ICD12               | 8-759-914-96 | s IC N74F85N              |
| ICD13               | 8-759-914-96 | s IC N74F85N              |
| ICD14               | 8-759-914-96 | s IC N74F85N              |
| ICD15               | 8-759-942-67 | s IC L29C520PC            |
| ICD16               | 8-759-916-54 | s IC SN74HC174N           |
| ICD17               | 8-759-803-70 | s IC SN74HC08N            |
| ICD18               | 8-759-904-80 | s IC 74F04PC              |
| ICD19               | 8-759-904-87 | s IC 74F374PC             |
| ICD20               | 8-759-002-00 | s IC MC74F153N            |
| ICD21               | 8-759-906-66 | s IC 74F86PC              |
| ICD22               | 8-759-948-19 | s IC V74ACT821PS          |
| ICE1                | 8-759-916-66 | s IC SN74HCT240N          |
| ICE2                | 8-759-902-44 | s IC SN74LS244N           |
| ICE3                | 8-759-913-63 | s IC SN74ALS374N          |
| ICE4                | 8-759-913-63 | s IC SN74ALS374N          |
| ICE5                | 8-759-946-64 | s IC SN74ALS04BN          |
| ICE6                | 8-759-914-96 | s IC N74F85N              |
| ICE7                | 8-759-916-54 | s IC SN74HC174N           |
| ICE8                | 8-759-906-66 | s IC 74F86PC              |
| ICE9                | 8-759-914-96 | s IC N74F85N              |
| ICE10               | 8-759-914-96 | s IC N74F85N              |
| ICE11               | 8-759-914-96 | s IC N74F85N              |
| ICE13               | 8-759-948-19 | s IC V74ACT821PS          |
| ICE14               | 8-759-706-28 | s IC AT27HC642-DPR18E14V1 |
| ICE15               | 8-759-948-21 | s IC V74ACT827PS          |
| ICE16               | 8-759-916-71 | s IC SN74HC244N           |
| ICE17               | 8-759-913-63 | s IC SN74ALS374N          |
| ICE18               | 8-759-913-63 | s IC SN74ALS374N          |
| ICE19               | 8-759-987-11 | s IC SN74ALS575ANT        |
| ICE20               | 8-759-936-60 | s IC SN74ALS273N          |
| ICE21               | 8-759-500-72 | s IC SN74ALS157AN         |

## (DPR-18 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICF1                | 8-759-916-66 | s IC SN74HCT240N          |
| ICF2                | 8-759-902-44 | s IC SN74LS244N           |
| ICF3                | 8-759-913-63 | s IC SN74ALS374N          |
| ICF4                | 8-759-913-63 | s IC SN74ALS374N          |
| ICF5                | 8-759-914-96 | s IC N74F85N              |
| ICF6                | 8-759-914-96 | s IC N74F85N              |
| ICF7                | 8-759-916-54 | s IC SN74HC174N           |
| ICF8                | 8-759-904-81 | s IC 74F08PC              |
| ICF11               | 8-759-990-97 | s IC CXD8156Q             |
| ICF13               | 8-759-938-44 | s IC SN74ALS688N          |
| ICF14               | 8-759-706-27 | s IC AT27HC642-DPR18F14V1 |
| ICF16               | 8-759-916-71 | s IC SN74HC244N           |
| ICF17               | 8-759-913-63 | s IC SN74ALS374N          |
| ICF18               | 8-759-913-63 | s IC SN74ALS374N          |
| ICF19               | 8-759-987-11 | s IC SN74ALS575ANT        |
| ICF20               | 8-759-936-60 | s IC SN74ALS273N          |
| ICF21               | 8-759-500-72 | s IC SN74ALS157AN         |
| ICF24               | 8-759-990-97 | s IC CXD8156Q             |
| ICG1                | 8-759-948-19 | s IC V74ACT821PS          |
| ICG2                | 8-759-937-47 | s IC SN74ALS86N           |
| ICG3                | 8-759-913-63 | s IC SN74ALS374N          |
| ICG4                | 8-759-913-63 | s IC SN74ALS374N          |
| ICG5                | 8-759-916-14 | s IC SN74HC04N            |
| ICG6                | 8-759-914-96 | s IC N74F85N              |
| ICG7                | 8-759-916-54 | s IC SN74HC174N           |
| ICG8                | 8-759-904-87 | s IC 74F374PC             |
| ICG9                | 8-759-914-96 | s IC N74F85N              |
| ICG10               | 8-759-914-96 | s IC N74F85N              |
| ICG11               | 8-759-914-96 | s IC N74F85N              |
| ICG13               | 8-759-948-19 | s IC V74ACT821PS          |
| ICG14               | 8-759-707-72 | s IC AT27HC642-DPR18G14V1 |
| ICG15               | 8-759-948-21 | s IC V74ACT827PS          |
| ICG16               | 8-759-904-79 | s IC 74F00PC              |
| ICG17               | 8-759-913-63 | s IC SN74ALS374N          |
| ICG18               | 8-759-913-63 | s IC SN74ALS374N          |
| ICG19               | 8-759-987-11 | s IC SN74ALS575ANT        |
| ICG20               | 8-759-936-60 | s IC SN74ALS273N          |
| ICG21               | 8-759-500-72 | s IC SN74ALS157AN         |
| ICG22               | 8-752-304-30 | s IC CX23043              |
| ICG24               | 8-752-304-30 | s IC CX23043              |
| ICG26               | 8-759-948-19 | s IC V74ACT821PS          |
| ICH0                | 8-759-913-63 | s IC SN74ALS374N          |
| ICH1                | 8-759-948-19 | s IC V74ACT821PS          |
| ICH2                | 8-759-937-47 | s IC SN74ALS86N           |
| ICH3                | 8-759-913-63 | s IC SN74ALS374N          |
| ICH4                | 8-759-913-63 | s IC SN74ALS374N          |
| ICH5                | 8-759-914-96 | s IC N74F85N              |
| ICH6                | 8-759-914-96 | s IC N74F85N              |
| ICH7                | 8-759-916-54 | s IC SN74HC174N           |
| ICH8                | 8-759-948-28 | s IC SM5828P              |
| ICH11               | 8-759-990-97 | s IC CXD8156Q             |
| ICH13               | 8-759-938-44 | s IC SN74ALS688N          |
| ICH14               | 8-759-707-73 | s IC AT27HC642-DPR18H14V1 |
| ICH15               | 8-759-921-08 | s IC SN74HC02N            |
| ICH16               | 8-759-904-80 | s IC 74F04PC              |
| ICH17               | 8-759-913-63 | s IC SN74ALS374N          |
| ICH18               | 8-759-913-63 | s IC SN74ALS374N          |
| ICH19               | 8-759-987-11 | s IC SN74ALS575ANT        |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(DPR-18 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description         |
|---------------------|--------------|------------------------|
| ICH20               | 8-759-936-60 | s IC SN74ALS273N       |
| ICH21               | 8-759-916-54 | s IC SN74HC174N        |
| ICH22               | 8-759-916-79 | s IC SN74HC273N        |
| ICH23               | 8-759-916-96 | s IC SN74HC374N        |
| ICH24               | 8-759-916-54 | s IC SN74HC174N        |
| ICH26               | 8-759-948-28 | s IC SM5828P           |
| RB1                 | 1-231-533-00 | s RESISTOR BLOCK 10Kx4 |
| RB2                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8 |
| RB3                 | 1-231-410-00 | s RESISTOR BLOCK 10Kx8 |
| S1                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S2                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S3                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S4                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S5                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S6                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S7                  | 1-554-027-00 | s SWITCH, DIGITAL      |
| S8                  | 1-570-602-11 | s SWITCH, DIP 2-CKT    |

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EX-270 BOARD  
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| Ref. No.<br>or Q'ty | Part No.     | SP Description               |
|---------------------|--------------|------------------------------|
| 1pc                 | A-6279-735-A | s EX-270 ASSY                |
| 1pc                 | A-6279-728-A | o RAIL (R) ASSY              |
| 1pc                 | A-6279-729-A | o RAIL (L) ASSY              |
| 2pcs                | 3-701-439-21 | s WASHER                     |
| 2pcs                | 3-166-847-01 | o BRACKET, PC BOARD LEVER    |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD            |
| 4pcs                | 3-167-578-01 | s NUT, PLATE                 |
| 2pcs                | 3-167-579-01 | o BRACKET, PC BOARD LEVER    |
| 1pc                 | 3-167-586-01 | o PLATE, SHIELD              |
| 12pcs               | 7-621-773-87 | s SCREW +B 2.6X10            |
| 4pcs                | 7-622-207-05 | s N 2.6, TYPE 2              |
| 2pcs                | 7-624-105-04 | s STOP RING 2.3, TYPE-E      |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8            |
| 6pcs                | 7-682-903-01 | s SCREW +PSW 3X5             |
| 16pcs               | 7-682-948-01 | s SCREW +PSW 3X8             |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE   |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE   |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE   |
| CN4                 | 1-563-341-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN5                 | 1-563-341-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN6                 | 1-563-341-11 | s CONNECTOR, DIN 96P, FEMALE |

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LE-76 BOARD  
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| Ref. No.<br>or Q'ty | Part No.     | SP Description    |
|---------------------|--------------|-------------------|
| 1pc                 | 1-631-489-11 | o PC BOARD, LE-76 |
| D1                  | 8-719-920-05 | s DIODE TLG123A   |
| D2                  | 8-719-920-05 | s DIODE TLG123A   |
| D3                  | 8-719-920-05 | s DIODE TLG123A   |
| D4                  | 8-719-920-05 | s DIODE TLG123A   |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

MB-305 BOARD

| Ref. No.<br>or Q'ty | Part No.     | SP Description               |
|---------------------|--------------|------------------------------|
| 5pcs                | 1-580-355-11 | o HOUSING, CONNECTOR 96P     |
| 98pcs               | 7-622-207-05 | s N 2.6, TYPE 2              |
| 98pcs               | 7-628-254-20 | s SCREW +PS 2.6X8            |
| CN1                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN2                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN3                 | 1-580-299-11 | o CONNECTOR, DIN 96P         |
| CN4                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN5                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN6                 | 1-580-299-11 | o CONNECTOR, DIN 96P         |
| CN7                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN8                 | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN9                 | 1-580-299-11 | o CONNECTOR, DIN 96P         |
| CN10                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN11                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN12                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN13                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN14                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN15                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN16                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN17                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN18                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN19                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN20                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN21                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN22                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN23                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN24                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN25                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN26                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN27                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN28                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN29                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN30                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN31                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN32                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN33                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN34                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN35                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN36                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN37                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN38                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN39                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN40                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN41                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN42                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN43                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN44                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN45                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN46                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN47                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN48                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN49                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN50                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN51                | 1-580-299-11 | o CONNECTOR, DIN 96P         |
| CN52                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN53                | 1-563-337-11 | s CONNECTOR, DIN 96P, FEMALE |
| CN54                | 1-580-299-11 | o CONNECTOR, DIN 96P         |
| CN55                | 1-564-214-11 | o PIN, CONNECTOR 3P          |

(MB-305 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description         |
|---------------------|--------------|------------------------|
| CN56                | 1-506-472-11 | s CONNECTOR, 7P, MALE  |
| CN57                | 1-535-869-11 | s INSERT, POWER        |
| CN58                | 1-535-869-11 | s INSERT, POWER        |
| CN59                | 1-535-869-11 | s INSERT, POWER        |
| CN60                | 1-535-869-11 | s INSERT, POWER        |
| CN61                | 1-535-869-11 | s INSERT, POWER        |
| CN62                | 1-535-869-11 | s INSERT, POWER        |
| CN63                | 1-535-869-11 | s INSERT, POWER        |
| CN64                | 1-535-869-11 | s INSERT, POWER        |
| CN65                | 1-535-869-11 | s INSERT, POWER        |
| CN66                | 1-535-869-11 | s INSERT, POWER        |
| CN67                | 1-535-869-11 | s INSERT, POWER        |
| CN68                | 1-535-869-11 | s INSERT, POWER        |
| CN69                | 1-535-869-11 | s INSERT, POWER        |
| CN70                | 1-535-869-11 | s INSERT, POWER        |
| CN71                | 1-535-869-11 | s INSERT, POWER        |
| CN72                | 1-535-869-11 | s INSERT, POWER        |
| CN73                | 1-535-869-11 | s INSERT, POWER        |
| CN74                | 1-535-869-11 | s INSERT, POWER        |
| RB1                 | 1-231-399-00 | s RESISTOR BLOCK 330x8 |
| RB2                 | 1-231-400-00 | s RESISTOR BLOCK 390x8 |
| RB3                 | 1-231-399-00 | s RESISTOR BLOCK 330x8 |
| RB4                 | 1-231-400-00 | s RESISTOR BLOCK 390x8 |
| RB5                 | 1-231-399-00 | s RESISTOR BLOCK 330x8 |
| RB6                 | 1-231-400-00 | s RESISTOR BLOCK 390x8 |
| RB7                 | 1-231-399-00 | s RESISTOR BLOCK 330x8 |
| RB8                 | 1-231-400-00 | s RESISTOR BLOCK 390x8 |
| RB9                 | 1-235-452-11 | s RESISTOR BLOCK 330x4 |
| RB10                | 1-231-499-00 | s RESISTOR BLOCK 390x4 |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

## MEM-41 BOARD

## (MEM-41 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description                  |
|---------------------|--------------|---------------------------------|
| 1pc                 | A-6259-458-A | o MOUNTED CIRCUIT BOARD, MEM-41 |
| 14pcs               | 1-526-816-21 | o SOCKET, IC (DP) 24P           |
| 2pcs                | 3-166-184-01 | o LEVER, PC BOARD               |
| 6pcs                | 7-621-773-87 | s SCREW +B 2.6X10               |
| 2pcs                | 7-622-207-05 | s N 2.6, TYPE 2                 |
| 2pcs                | 7-626-320-11 | s PIN, SPRING 3X8               |
| 8pcs                | 7-682-948-01 | s SCREW +PSW 3X8                |
| C1                  | 1-124-589-11 | s ELECT 47uF 20% 16V            |
| CN1                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN2                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| CN3                 | 1-506-748-11 | s CONNECTOR, DIN 96P, MALE      |
| COP1                | 1-563-859-11 | s PLUG, SHORTING                |
| COP2                | 1-563-859-11 | s PLUG, SHORTING                |
| COP3                | 1-563-859-11 | s PLUG, SHORTING                |
| COR1                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| COR2                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| COR3                | 1-566-388-11 | s CONNECTOR, 8P, MALE           |
| DL1                 | 1-415-167-00 | s DELAY LINE                    |
| F1                  | 1-576-031-11 | s FUSE, MICRO                   |
| F2                  | 1-576-031-11 | s FUSE, MICRO                   |
| ICA1                | 8-759-936-60 | s IC SN74ALS273N                |
| ICA2                | 8-759-904-87 | s IC 74F374PC                   |
| ICA3                | 8-759-904-87 | s IC 74F374PC                   |
| ICA4                | 8-759-917-53 | s IC 74F139PC                   |
| ICA5                | 8-759-904-87 | s IC 74F374PC                   |
| ICA6                | 8-759-505-73 | s IC CY7C199-45PC               |
| ICA7                | 8-759-505-73 | s IC CY7C199-45PC               |
| ICA9                | 8-759-904-87 | s IC 74F374PC                   |
| ICA10               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICA11               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICA13               | 8-759-904-87 | s IC 74F374PC                   |
| ICA14               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICA15               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICA17               | 8-759-904-87 | s IC 74F374PC                   |
| ICA19               | 8-759-990-95 | s IC CXD8158Q                   |
| ICA20               | 8-759-990-95 | s IC CXD8158Q                   |
| ICB1                | 8-759-904-87 | s IC 74F374PC                   |
| ICB2                | 8-759-904-87 | s IC 74F374PC                   |
| ICB3                | 8-759-904-87 | s IC 74F374PC                   |
| ICB4                | 8-759-938-93 | s IC 74F157APC                  |
| ICB5                | 8-759-906-78 | s IC 74F399PC                   |
| ICC1                | 8-759-904-80 | s IC 74F04PC                    |
| ICC2                | 8-759-904-87 | s IC 74F374PC                   |
| ICC3                | 8-759-904-87 | s IC 74F374PC                   |
| ICC4                | 8-759-917-53 | s IC 74F139PC                   |
| ICC5                | 8-759-904-87 | s IC 74F374PC                   |
| ICC6                | 8-759-505-73 | s IC CY7C199-45PC               |
| ICC7                | 8-759-505-73 | s IC CY7C199-45PC               |
| ICC9                | 8-759-904-87 | s IC 74F374PC                   |
| ICC10               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICC11               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICC13               | 8-759-904-87 | s IC 74F374PC                   |
| ICC14               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICC15               | 8-759-505-73 | s IC CY7C199-45PC               |
| ICC17               | 8-759-904-87 | s IC 74F374PC                   |

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICC19               | 8-759-990-95 | s IC CXD8158Q             |
| ICC20               | 8-759-990-95 | s IC CXD8158Q             |
| ICD1                | 8-759-904-87 | s IC 74F374PC             |
| ICD2                | 8-759-904-87 | s IC 74F374PC             |
| ICD3                | 8-759-904-87 | s IC 74F374PC             |
| ICD4                | 8-759-938-93 | s IC 74F157APC            |
| ICD5                | 8-759-906-78 | s IC 74F399PC             |
| ICD6                | 8-759-505-73 | s IC CY7C199-45PC         |
| ICD7                | 8-759-505-73 | s IC CY7C199-45PC         |
| ICD9                | 8-759-904-87 | s IC 74F374PC             |
| ICD10               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICD11               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICD13               | 8-759-904-87 | s IC 74F374PC             |
| ICD14               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICD15               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICD17               | 8-759-904-87 | s IC 74F374PC             |
| ICD19               | 8-759-990-95 | s IC CXD8158Q             |
| ICD20               | 8-759-990-95 | s IC CXD8158Q             |
| ICE1                | 8-759-904-77 | s IC AM26LS32ACN          |
| ICE2                | 8-759-904-87 | s IC 74F374PC             |
| ICE3                | 8-759-904-87 | s IC 74F374PC             |
| ICE4                | 8-759-917-53 | s IC 74F139PC             |
| ICE5                | 8-759-904-87 | s IC 74F374PC             |
| ICE6                | 8-759-505-73 | s IC CY7C199-45PC         |
| ICE7                | 8-759-505-73 | s IC CY7C199-45PC         |
| ICE9                | 8-759-904-87 | s IC 74F374PC             |
| ICE10               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICE11               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICE13               | 8-759-904-87 | s IC 74F374PC             |
| ICE14               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICE15               | 8-759-505-73 | s IC CY7C199-45PC         |
| ICE17               | 8-759-904-87 | s IC 74F374PC             |
| ICE19               | 8-759-990-95 | s IC CXD8158Q             |
| ICE20               | 8-759-990-95 | s IC CXD8158Q             |
| ICF1                | 8-759-904-87 | s IC 74F374PC             |
| ICF2                | 8-759-904-87 | s IC 74F374PC             |
| ICF3                | 8-759-904-87 | s IC 74F374PC             |
| ICF4                | 8-759-938-93 | s IC 74F157APC            |
| ICF5                | 8-759-906-78 | s IC 74F399PC             |
| ICG1                | 8-759-904-87 | s IC 74F374PC             |
| ICG2                | 8-759-904-87 | s IC 74F374PC             |
| ICG3                | 8-759-904-79 | s IC 74F00PC              |
| ICG4                | 8-759-904-79 | s IC 74F00PC              |
| ICG5                | 8-759-904-80 | s IC 74F04PC              |
| ICG6                | 8-759-904-83 | s IC 74F32PC              |
| ICG7                | 8-759-913-63 | s IC SN74ALS374N          |
| ICG8                | 8-759-904-81 | s IC 74F08PC              |
| ICG9                | 8-759-917-53 | s IC 74F139PC             |
| ICG10               | 8-759-904-83 | s IC 74F32PC              |
| ICG11               | 8-759-904-83 | s IC 74F32PC              |
| ICG12               | 8-759-906-66 | s IC 74F86PC              |
| ICG13               | 8-759-904-83 | s IC 74F32PC              |
| ICG14               | 8-759-904-83 | s IC 74F32PC              |
| ICG15               | 8-759-913-63 | s IC SN74ALS374N          |
| ICG16               | 8-759-913-63 | s IC SN74ALS374N          |
| ICG17               | 8-759-904-80 | s IC 74F04PC              |
| ICG18               | 8-759-706-19 | s IC WS57C291B-MEM41G18V1 |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".



## (MEM-41 BOARD)

| Ref. No.<br>or Q'ty | Part No.     | SP Description            |
|---------------------|--------------|---------------------------|
| ICG19               | 8-759-948-19 | s IC V74ACT821PS          |
| ICG20               | 8-759-500-76 | s IC CXD8040G             |
| ICH1                | 8-759-906-78 | s IC 74F399PC             |
| ICH2                | 8-759-906-78 | s IC 74F399PC             |
| ICH3                | 8-759-904-87 | s IC 74F374PC             |
| ICH6                | 8-759-904-83 | s IC 74F32PC              |
| ICH7                | 8-759-904-79 | s IC 74F00PC              |
| ICH8                | 8-759-705-96 | s IC WS57C291B-MEM41H8V1  |
| ICH9                | 8-759-705-97 | s IC WS57C291B-MEM41H9V1  |
| ICH10               | 8-759-706-12 | s IC WS57C291B-MEM41H10V1 |
| ICH11               | 8-759-706-13 | s IC WS57C291B-MEM41H11V1 |
| ICH12               | 8-759-904-87 | s IC 74F374PC             |
| ICH14               | 8-759-706-14 | s IC WS57C291B-MEM41H14V1 |
| ICH15               | 8-759-706-15 | s IC WS57C291B-MEM41H15V1 |
| ICH17               | 8-759-990-97 | s IC CXD8156Q             |
| ICH19               | 8-759-948-19 | s IC V74ACT821PS          |
| ICJ2                | 8-759-918-33 | s IC CX20160              |
| ICJ3                | 8-759-918-33 | s IC CX20160              |
| ICJ4                | 8-759-913-63 | s IC SN74ALS374N          |
| ICJ5                | 8-759-938-93 | s IC 74F157APC            |
| ICJ6                | 8-759-002-00 | s IC MC74F153N            |
| ICJ7                | 8-759-904-80 | s IC 74F04PC              |
| ICJ8                | 8-759-705-92 | s IC WS57C291B-MEM41J8V1  |
| ICJ9                | 8-759-705-93 | s IC WS57C291B-MEM41J9V1  |
| ICJ10               | 8-759-705-94 | s IC WS57C291B-MEM41J10V1 |
| ICJ11               | 8-759-705-95 | s IC WS57C291B-MEM41J11V1 |
| ICJ12               | 8-759-904-87 | s IC 74F374PC             |
| ICJ13               | 8-759-706-16 | s IC WS57C291B-MEM41J13V1 |
| ICJ14               | 8-759-706-17 | s IC WS57C291B-MEM41J14V1 |
| ICJ15               | 8-759-706-18 | s IC WS57C291B-MEM41J15V1 |
| ICJ16               | 8-759-904-81 | s IC 74F08PC              |
| ICJ17               | 8-759-904-81 | s IC 74F08PC              |
| ICJ18               | 8-759-904-81 | s IC 74F08PC              |
| ICJ19               | 8-759-948-19 | s IC V74ACT821PS          |
| ICJ20               | 8-759-500-76 | s IC CXD8040G             |
| S1                  | 1-570-602-11 | s SWITCH, DIP 2-CKT       |

## FRAME

| Ref. No.<br>or Q'ty | Part No.      | SP Description                      |
|---------------------|---------------|-------------------------------------|
| 4pcs                | 1-249-408-11  | s CARBON 180 5% 1/4W                |
| 1pc                 | ▲1-413-477-12 | s REGULATOR, SWITCHING (EWS50-5)    |
| 1pc                 | ▲1-413-569-11 | s REGULATOR, SWITCHING (LWT-4HA522) |
| 1pc                 | ▲1-413-594-11 | s SWITCHING REGULATOR (EWS600-5)    |
| 1pc                 | ▲1-424-136-11 | s FILTER, NOISE                     |
| 1pc                 | 1-506-468-11  | o CONNECTOR, 3P, MALE               |
| 1pc                 | ▲1-540-178-11 | s INLET, AC (GL-2100C-30)           |
| 3pcs                | 1-541-329-31  | s FAN, DC (WITH ALARM)              |
| 1pc                 | ▲1-572-345-11 | s SWITC, SEESAW (AC POWER)          |
| 1pc                 | 1-631-489-11  | o PC BOARD, LE-76                   |
| 4pcs                | 8-719-920-05  | s DIODE TLG123A                     |
| HARNESS (MB1)       |               |                                     |
|                     | 1-535-427-00  | o TERMINAL, SOLDERLESS              |
|                     | 1-580-352-11  | o HOUSING, CONNECTOR 20P            |
|                     | 1-580-359-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
|                     | 1-580-360-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
| HARNESS (MB2)       |               |                                     |
|                     | 1-535-321-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-535-427-00  | o TERMINAL, SOLDERLESS              |
|                     | 1-562-210-11  | s CONTACT, FEMALE AWG18-22          |
|                     | 1-562-211-11  | o HOUSING, CONNECTOR 3P             |
|                     | 1-569-200-11  | o HOUSING, CONNECTOR 3P             |
|                     | 1-580-352-11  | o HOUSING, CONNECTOR 20P            |
|                     | 1-580-358-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
|                     | 1-580-359-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
|                     | 1-580-360-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
| HARNESS (AC SW)     |               |                                     |
|                     | 1-535-316-11  | s TERMINAL, GROUND (M4)             |
|                     | ▲1-535-321-11 | o TERMINAL, SOLDERLESS              |
|                     | 1-535-446-00  | o TERMINAL, FASTEN                  |
|                     | 1-563-156-11  | o TERMINAL                          |
|                     | ▲1-576-036-11 | s BREAKER, CIRCUIT 6A 250V          |
|                     | 3-723-892-01  | o COVER, CIRCUIT BREAKER            |
| HARNESS (AC1)       |               |                                     |
|                     | 1-535-321-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-535-340-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-535-341-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-562-210-11  | s CONTACT, FEMALE AWG18-22          |
|                     | 1-562-286-11  | o HOUSING, CONNECTOR 5P             |
| HARNESS (DC1)       |               |                                     |
|                     | 1-535-690-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-580-349-11  | o HOUSING, CONNECTOR 20P            |
|                     | 1-580-359-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
|                     | 1-580-360-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
| HARNESS (DC2)       |               |                                     |
|                     | 1-535-321-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-535-341-11  | o TERMINAL, SOLDERLESS              |
|                     | 1-562-210-11  | s CONTACT, FEMALE AWG18-22          |
|                     | 1-562-833-11  | o HOUSING, 7P                       |
|                     | 1-569-196-11  | o HOUSING, CONNECTOR 3P             |
|                     | 1-569-197-11  | o HOUSING, CONNECTOR 4P             |
|                     | 1-580-349-11  | o HOUSING, CONNECTOR 20P            |
|                     | 1-580-358-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
|                     | 1-580-359-21  | o TERMINAL, CONNECTOR SOLDERLESS    |
|                     | 1-580-360-21  | o TERMINAL, CONNECTOR SOLDERLESS    |

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

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PACKING MATERIALS & SUPPLIED ACCESSORIES  
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Ref. No.

or Q'ty Part No. SP Description

|     |               |   |                                |
|-----|---------------|---|--------------------------------|
| 1pc | A-6279-735-A  | s | EX-270 ASSY                    |
| 1pc | ▲1-506-411-21 | s | ADAPTOR, AC PLUG 3P-2P         |
| 1pc | ▲1-557-377-11 | s | CORD, POWER                    |
| 1pc | 1-569-221-11  | o | CONNECTOR, BNC (WITH RESISTOR) |
| 1pc | 2-990-242-01  | o | HOLDER (B), PLUG               |
|     |               |   |                                |
| 1pc | 3-701-640-00  | s | BAG, POLYETHYLENE              |
| 1pc | 3-701-648-00  | s | BAG, POLYETHYLENE              |

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